

Please cite this paper as:

Guichard, S. and B. Larre (2006), "Enhancing Portugal's Human Capital", *OECD Economics Department Working Papers*, No. 505, OECD Publishing.
[doi:10.1787/871641300584](https://doi.org/10.1787/871641300584)



OECD Economics Department
Working Papers No. 505

Enhancing Portugal's Human Capital

Stéphanie Guichard, Bénédicte Larre

Unclassified

ECO/WKP(2006)33



Organisation de Coopération et de Développement Economiques
Organisation for Economic Co-operation and Development

28-Jul-2006

English text only

ECONOMICS DEPARTMENT

ECO/WKP(2006)33
Unclassified

ENHANCING PORTUGAL'S HUMAN CAPITAL

ECONOMICS DEPARTMENT WORKING PAPERS No. 505

By
Stéphanie Guichard and Bénédicte Larre

JT03212365

Document complet disponible sur OLIS dans son format d'origine
Complete document available on OLIS in its original format

English text only

ABSTRACT/RÉSUMÉ

ENHANCING PORTUGAL'S HUMAN CAPITAL

The lack of human capital in Portugal has become a key obstacle to higher growth. This paper discusses the performance of education and training services in Portugal and shows that improvements are needed to narrow the significant human capital gap with other OECD countries. Despite progress in the past decades, Portuguese children spend comparatively few years in formal education, and they do not perform as well as children from other OECD countries. Adults, especially the least educated, do not participate enough in lifelong learning and training programmes. This situation does not stem from a lack of resources devoted to education and training but from inefficiencies and misallocation of spending, and weaknesses in the quality of the services that compound the low starting point of Portugal regarding education. Modernizing the Portuguese economy therefore requires a broad reform which increases human capital at all levels. The ongoing efforts of the authorities in the three areas - basic and upper secondary education, tertiary education and adult training - go in the right direction but implementation remains a challenge.

JEL Classification: I20, I21, I22, I23, I28, J24

Keywords: Education, human capital, adult training, Portugal

This Working Paper relates to the 2006 OECD Economic Survey of Portugal (www.oecd.org/eco/surveys/portugal)

ACCROÎTRE LE CAPITAL HUMAIN AU PORTUGAL

L'insuffisance du capital humain au Portugal est devenue un des obstacles clé à une croissance plus forte. Ce papier discute la performance des services éducatifs et de formation des adultes au Portugal et montre que, pour réduire significativement le retard en terme de capital humain vis-à-vis des autres pays de l'OCDE, ces services doivent être améliorés. En dépit des progrès accomplis au cours des dernières décennies, les jeunes Portugais passent relativement peu d'années dans le système éducatif et n'obtiennent pas d'aussi bons résultats que les jeunes des autres pays de l'OCDE. Les adultes, et en particulier les moins éduqués, ne participent pas suffisamment aux activités de formation tout au long de la vie. Cette situation ne tient pas à une insuffisance des ressources consacrées à l'éducation, mais à un manque d'efficacité, à une mauvaise affectation des dépenses et à une mauvaise qualité des services éducatifs qui viennent amplifier le retard initial dont souffre déjà le Portugal sur le plan de l'éducation. La modernisation de l'économie Portugaise requiert donc une réforme de grande ampleur qui accroisse le capital humain à tous les niveaux. Les efforts actuels des autorités dans les domaines de l'éducation primaire et secondaire, de l'éducation tertiaire et de la formation des adultes vont dans la bonne direction, mais leur mise en œuvre est un défi.

Classification JEL : I20, I21, I22, I23, I28, J24

Mots clés : Éducation, capital humain, formation des adultes, Portugal

Ce Document de travail se rapporte à l'Étude économique de l'OCDE du Portugal 2006 (www.oecd.org/eco/etudes/portugal).

Copyright OECD 2006

**Application for permission to reproduce or translate all, or part of, this material should be made to:
Head of Publications Service, OECD, 2 rue André-Pascal, 75775 Paris Cedex 16, France.**

TABLE OF CONTENTS

Fostering human capital development in Portugal.....	5
Overview of the system performance.....	6
How to improve the performance of basic and upper secondary education?.....	13
<i>Assessment of the ongoing reforms</i>	28
Providing better tertiary education to a broader public.....	29
Upgrading the competences of the labour force through adult training.....	37
Bibliography.....	41
<i>Annex A2</i> Moving ahead with European harmonisation in higher education	44

Figures

Figure 1. Educational attainment of the working-age population	5
Figure 2. Enrolment rate for 14 to 18 year-olds.....	7
Figure 3. Early school leavers in OECD countries	8
Figure 4. Employment rates of 20-24 year-olds.....	8
Figure 5. Student performance and enrolment rate at age 15.....	10
Figure 6. Tertiary education attainment, 2003	11
Figure 7. Science and engineering university degrees	12
Figure 8. Participation in continuing education and training	13
Figure 9. Spending on education.....	15
Figure 10. Spending per student up to 15 and PISA results in 2003.....	16
Figure 11. Distribution of total and current expenditure on educational institutions.....	17
Figure 12. Teachers' salaries in lower secondary education (2003).....	19
Figure 13. Expenditure in tertiary education relative to GDP per capita	33
Figure 14. Annual expenditure per student in tertiary education	34

Boxes

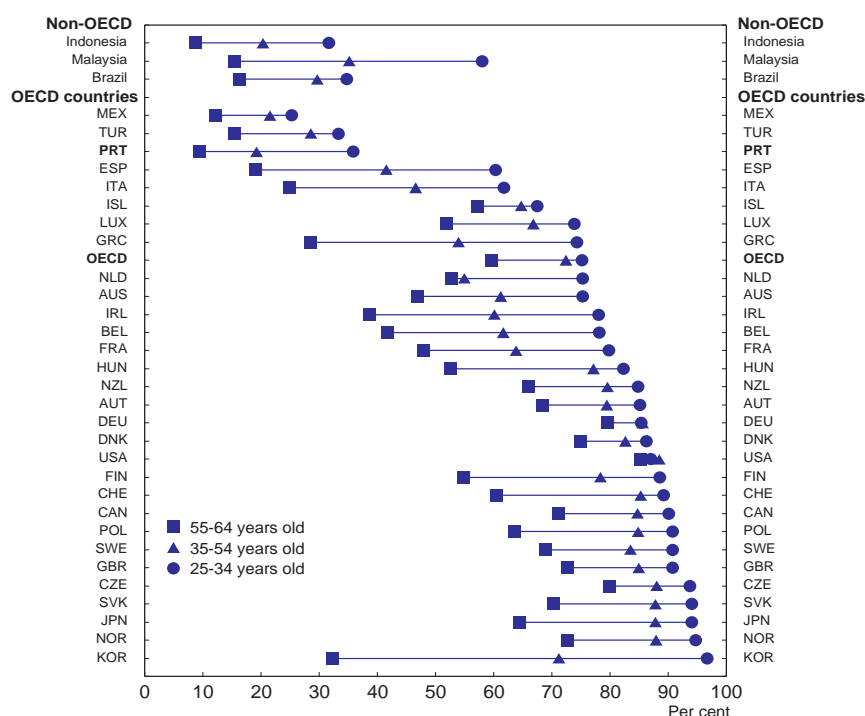
Box 1. <i>Novas Oportunidades</i> (New Opportunities)	20
Box 2. OECD countries' experience in funding tertiary education	36
Box 3. Preparing for the future: summing up of the main recommendations to develop Portugal's human capital	39
Box A2.1. Ongoing changes in the legal framework for higher education.....	44

Fostering human capital development in Portugal

By Stéphanie Guichard and Bénédicte Larre¹

1. Narrowing the human capital gap *vis-à-vis* other OECD countries is essential for Portugal to improve its productivity and resume catching up. Indeed, Portugal's productivity gap can be explained to some extent by the structure of the economy with its relatively high share of relatively low-skilled labour intensive sectors. The relatively low educational level of the population at large is the main factor explaining why many firms remain stuck in low-productivity activities and do not adopt more widely ICT and other modern techniques. The number of years of schooling of the working-age population is among the lowest in the OECD, with Portugal ranking next to Turkey and Mexico, and there has been only limited progress between one generation and the next (in contrast with Spain, Greece or Korea) (Figure 1).

Figure 1. Educational attainment of the working-age population
Population with at least an upper-secondary qualification, 2003¹



1. Per cent of each age group. 2002 for Czech Republic, Iceland, Italy and Netherlands
Source: OECD, Labour Market Statistics database.

1. This paper is based largely on material from the *OECD Economic Survey of Portugal* published in May 2006 under the authority of the Economic and Development Review Committee (EDRC). The authors would like to thank Andrew Dean, Jorgen Elmeskov, David Haugh, Peter Jarrett, Willi Leibfritz, Val Koromzay and Paulo Santiago, for valuable comments on earlier drafts. The paper has also benefited from discussions with numerous Portuguese experts, including from the government. Special thanks go to Roselyne Jamin for technical assistance and to Nadine Dufour and Lillie Kee for technical preparation.

2. There is a growing recognition that a better-educated population may be generally more innovative and better able to adapt to technological change, a prerequisite for Portugal to remain competitive and to catch-up to higher productivity levels. During the 1990s, this shortage of human capital did not prevent strong growth because the economy benefited from large infrastructure investment, often co-financed by EU funds, and large private investment. But this is not any more the case and a better-educated population is necessary to accelerate technological change and stimulate innovation in Portugal. The need to strengthen Portugal's knowledge base is also reinforced by the increasing competition from emerging countries in both low-skill and more skill-intensive activities. .

3. Fostering human capital requires actions on several fronts. A fundamental challenge lies in primary and secondary education. Despite progress the drop-out rates are among the highest in the OECD, while performance of the children who stay in school is one of the weakest, as measured by international literacy surveys. Improving the education system has been a policy priority for the past 30 years; however political instability (with 27 Education Ministers in the past 30 years) has meant a lack of continuity of action and has slowed progress. Hence, ensuring that children benefit more from school and leave it with a minimum skill level remains a major challenge. Improving primary and secondary education is necessary, but it will not be enough to meet the rising and changing demand for competences. The coverage and quality of tertiary education will also need to be improved, with a particular focus on science and technology. Finally, because of the very large deficit in qualifications of the workforce and the usual lags in improving outcomes in education, improving and broadening adult education and training, which is among the least developed in Europe, is essential.

4. This paper first presents a broad overview of the performance of initial and adult education service, stressing the areas where improvements are needed (section 1). Then, it discusses in more detail the specific problems and ways to address them in basic and secondary education (section 2), in tertiary education (section 3) and as concerns adults education and training (section 4). Specific recommendations are summarised in Box 3 at the end of the paper

Overview of the system performance

School enrolment has increased...

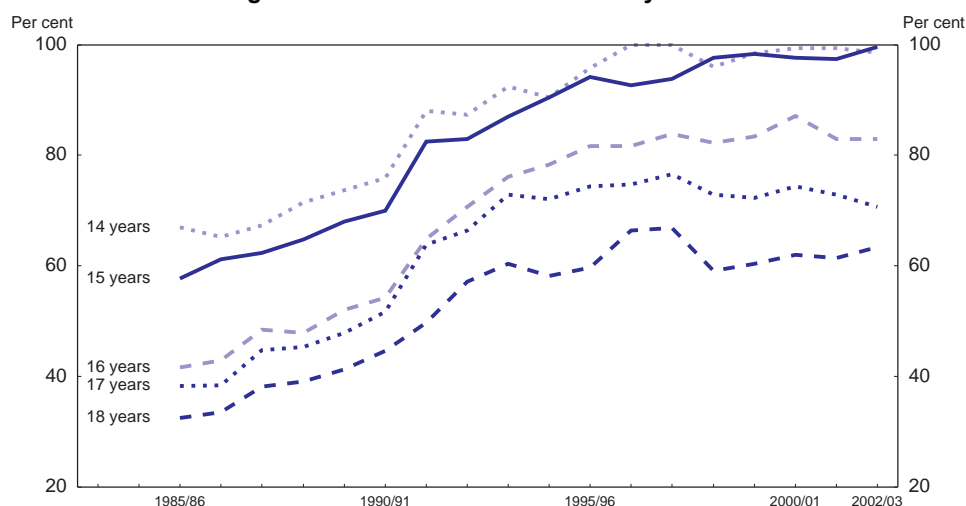
5. A major handicap for Portugal has been the very low starting point in terms of education attainment and literacy of its population. A fifth of all 15-64 year-olds were illiterate in the mid-1970s and less than 5% had completed upper secondary education. This made it difficult to find qualified teachers when the education system expanded. The low educational attainment of parents has also limited the potential achievements of children. Nevertheless, efforts to ensure access to education for all Portuguese resulted in a rapid expansion of enrolment. Figure 2 presents trends in enrolment by age since the mid-1980s when the 1986 Education Law lengthened compulsory schooling from 6 to 9 years to include lower secondary education.² Lower secondary is now nearly universal with 99% of 15 year-olds attending school.³ The coverage of preschool has also increased rapidly: more than 90% of 5 year-olds, and more

2. Compulsory schooling (*ensino básico*) covers three consecutive cycles (two primary cycles and a secondary cycle) followed by three years of non-compulsory upper secondary education (*ensino secundário*) (see synopsis of the education system in Annex 3.A1). As in most OECD countries, non-tertiary education is mainly provided by the public sector. Private institutions account for slightly more than 10% of student enrolment in basic education and close to 20% in upper secondary education. As in the United States, Mexico and Japan and contrary to most EU countries, private schools are independent from the government. Private institutions account for almost half of preschool institutions.

3. In 1991, 12.5% of 10-15 year-olds had left school without completing compulsory education; this share had fallen to 2.7% in 2001.

than 70% of 3-4 year-olds, were enrolled in the system in 2004/05. Finally, tertiary education has been characterised by the doubling of students' enrolment over the 10 years to 2002-03, an increase also observed in Korea, Mexico and new EU members for instance.

Figure 2. Enrolment rate for 14 to 18 year-olds



Source: Ministry of Education.

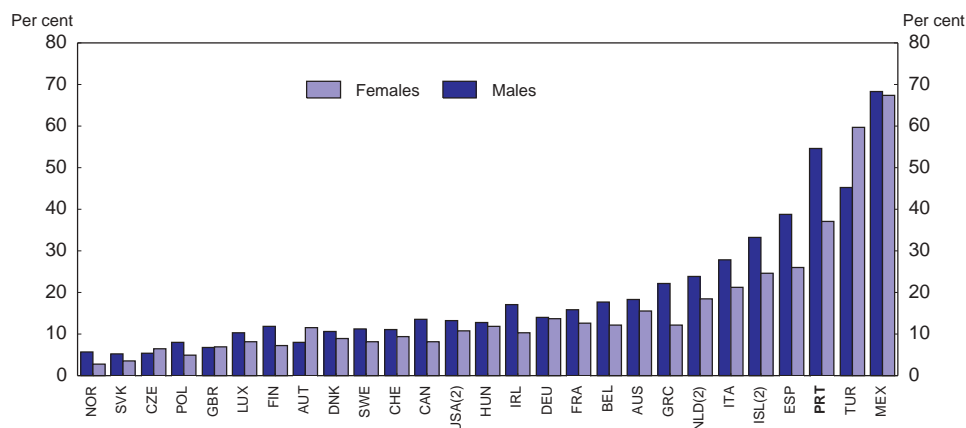
...but children still leave school too early...

6. Despite success in keeping children at school for longer, the high share of students leaving the education system too early with low skills remains a major problem. The share of students who drop out without completing upper secondary education is well above the OECD average. The early dropout rate (measured by the percentage of young adults who have completed lower secondary only, and who are not in training or education) has decreased from 63.7% in 1991 to 39.4% in 2004. This is still more than twice the EU average rate (15.9%) and among the highest rates in the EU and in the OECD (Figure 3). In addition, the participation of young adults in recurrent education (*i.e.* second-chance education programmes for those who dropped out) remains insufficient. So far, these early dropouts have not directly affected labour market outcomes as much as they have in other OECD countries: as shown by Figure 4, in Portugal, most of the early school leavers were employed in 2003 (60% in low-skilled jobs and 40% in skilled jobs, OECD (2005a)). Unlike in most other OECD countries, workers who did not complete upper secondary education have not so far faced much higher unemployment and the non-completion of upper secondary education has not necessarily been a factor in social exclusion.

7. Nevertheless, the issue of early dropouts from school is of major importance. First, young people with low skills are set to remain in the labour market for a long time, which might slow Portugal's needed adjustment towards higher value-added products. Second, low achievement in basic and upper secondary education explains to a large extent Portugal's low enrolment rate and poor achievements in tertiary education. It also contributes to lower potential gains from in-firm training. The pressure to overcome this problem has increased with the European Lisbon agenda which has set a target of 10% for the early dropout rate by 2010 for the EU average. Achieving the EU average rate in Portugal would imply a reduction by almost 30 percentage points over the next four years, which seems clearly unachievable. For this reason, the target defined by the National Action Plan for Employment is to reduce the share of early school leavers in the 18-24 year old group to 30% by 2008 and 25% by 2010.

Figure 3. Early school leavers in OECD countries

Share of 20-24 year olds who have not completed upper secondary and are no longer in education, 2003

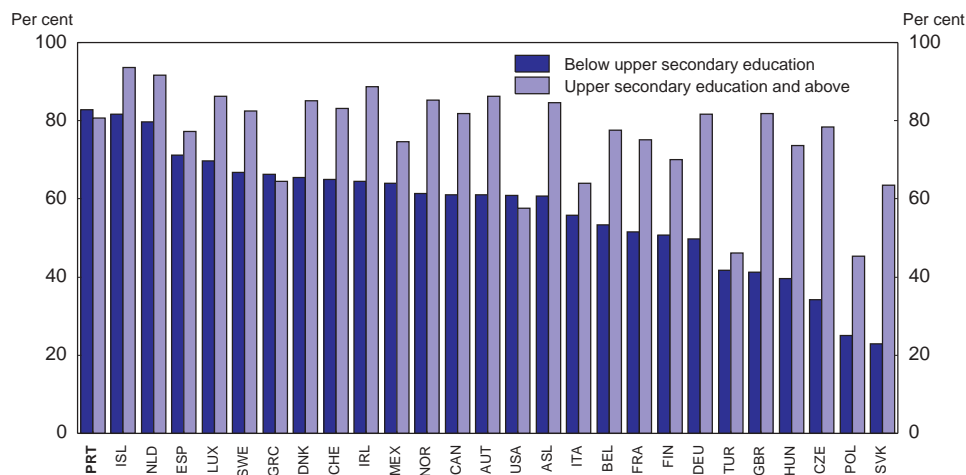


1. Data are ranked in ascending order of the total of the 20-24 year-olds.

2. Year of reference 2002.

Source: OECD, *Education at a Glance* (2005).**Figure 4. Employment rates of 20-24 year-olds**

Share of 20-24-year-olds no longer in education, 2003

Source: OECD, *Education at a Glance* (2005).

8. The high proportion of early school leavers results from the combination of several factors. A prominent one is the relatively low appreciation of schooling by large groups of the population. The traditional bias of upper secondary towards general education - intended to lead to tertiary education - has lowered the added value of completing upper secondary education for those who did not want to go on to university and did not find training opportunities matching their needs. Moreover, although measured returns to upper secondary education are in line with the rest of the EU, in an economy that until recently created enough unskilled jobs, education was not highly valued by the labour market at the beginning of the career. Some surveys show that completing upper secondary would not have necessarily helped young

workers to get better jobs right after they left school.⁴ On the other hand, returns to education tend to increase over the professional career as a better initial education gives better chances of career progression, notably via a strong ability to benefit from on-the-job training.⁵ The often uneducated and poor parents and their children might be short-sighted and not be fully aware of all the long-term benefits to continuing education and focus only on the easy entrance in the labour market. They might not fully appreciate either the potential benefits of more education or the likelihood that, in the new global environment, labour prospects for the less educated in Portugal will deteriorate significantly in coming years. Overall, future returns are perceived as insufficient to compensate for both direct costs of education (despite social support to families with children at school)⁶ and its important opportunity costs *vis-à-vis* starting work. Liquidity constraints might contribute to this phenomenon, but easing these constraints would not suffice to boost school participation unless the perceived value of schooling increases.

...partly as a result of low quality of education

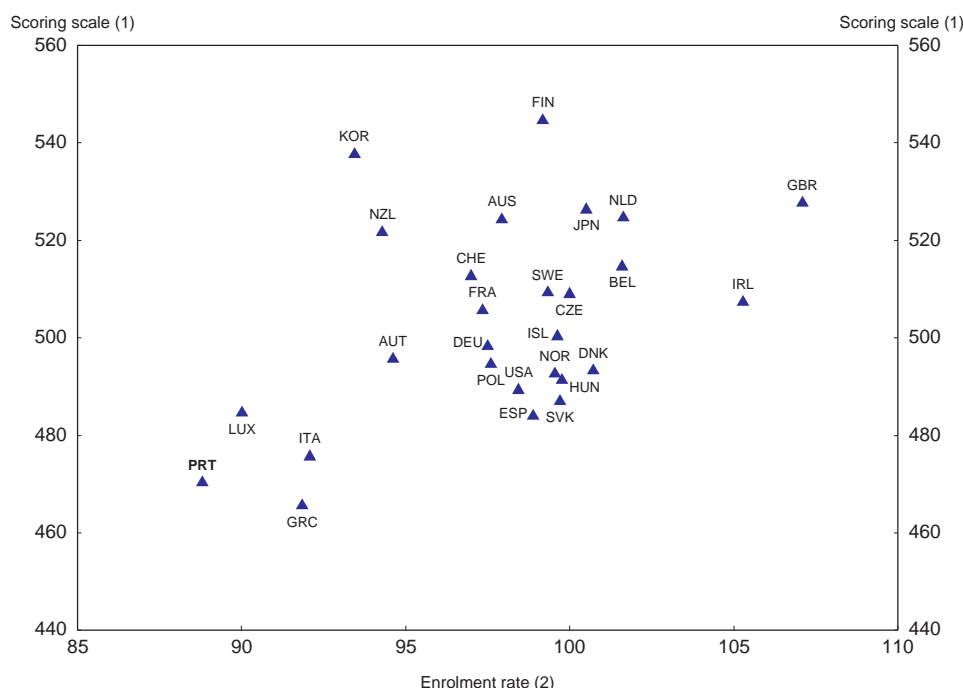
9. The high dropout rate in secondary education also reflects a lack of quality of the education in the two primary cycles. Furthermore, the achievements of students measured by the results of the 15 year-olds at PISA are well below the OECD and EU average (Figure 5).⁷ Among the 15 year-olds, 30% scored below, or at, level 1 in maths and 22% in reading, implying that they have acquired only very basic skills. Only 5.2% of students scored among the best performing students (*i.e.* at level 5 or 6) in maths and 3.8% in reading (a much lower share than the OECD average). National tests also reveal insufficient performance in core topics (Portuguese and Mathematics).

4. See OECD (2005a). This does not mean that it does not affect their career prospects later on.

5. Although private returns to education are high on average, they are smaller early in the career (see *2003 OECD Economic Survey of Portugal Annex* for some estimates).

6. Low-income families receive social support in the form of support for meal costs, for students lodging when in boarding schools and for the purchase of textbooks and of other educational materials up to close to 200 euros per child a month depending on the grade and family income. Such assistance benefits about 27% of the students in primary and secondary education.

7. The 2003 survey shows nevertheless some modest progress for the weakest students in mathematics.

Figure 5. Student performance and enrolment rate at age 15

1. Average performance across the combined reading, mathematical and scientific literacy scales in 2003, (for the United Kingdom data is from 2000).
2. Net enrolment rate at age 15. Public and private institutions. Net enrolment rates are calculated by dividing the number of students of a particular age group enrolled in all levels of education by the number of people in the population in that age group. Data differ from those computed by the Portuguese Ministry of Education presented in Figure 2, largely due to the still preliminary status of the data.

Source: OECD, *Literacy Skills for the World of Tomorrow: First Results from Pisa 2003* (2004) and *Education at a Glance* (2005).

Low educational attainment still repeats itself from one generation to the next

10. A major source of social inequity in most countries is the unequal education level of the parents: children with low-educated parents tend to leave school early, have lower educational attainments and a lower probability of accessing higher socio-economic status. The low initial education level of the Portuguese population (as reflected by the very small share of the older generations, including the 35-54 year-olds, having completed upper secondary education) has been a major obstacle to progress in educational attainment. In 2003, 62.8% of the 15 year-olds surveyed by PISA had a mother who had not completed upper secondary education (25.7% in the OECD). PISA results also show that socioeconomic variables (occupational status of parents, education level of parents, etc.) account for 21% of the variance in student performance, one of the largest shares in the OECD. Once corrected by the education of parents, the results of the Portuguese students in PISA rank relatively well.⁸ The low initial education level of the Portuguese population represents also a limit on the cost efficiency of resources since, for the same input, students' achievements are lower when parents are less educated.

11. An education system that works well should nevertheless be able to limit the repetition of low education from one generation to the next and foster inter-generational mobility from lower to higher socioeconomic status. If not, the system is not able to fully capitalise on the skill potential of students from disadvantaged backgrounds. This still represents a major challenge for Portugal. It is all the more important

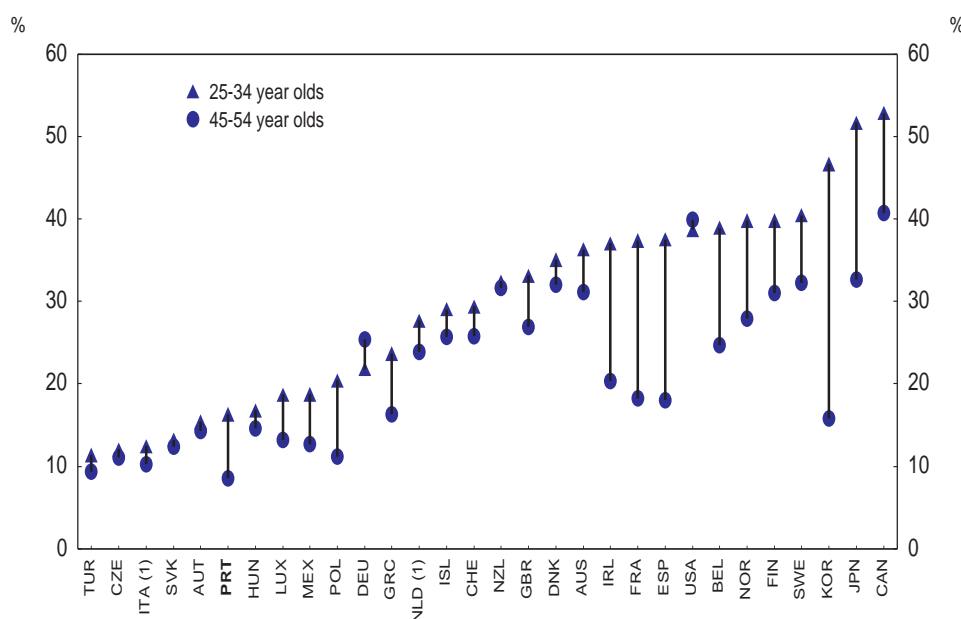
8. See OECD (2004a) Table 2.6.

because education will play a crucial role in the integration of the increasing number of children of immigrant parents. Several countries, such as Spain and Korea, have succeeded in breaking the negative cycle of inter-generational low achievement. The fact that Portugal started from a less favourable situation means that greater efforts must be made. Success is possible, however, since there is important room for improvement in the quality of education services, which would accelerate the education of successive Portuguese generations.

Access to tertiary education remains also too limited and selective

12. The level of tertiary education in Portugal as measured by the attainment of the population, even in the 25-34 age group, remains among the lowest in the OECD (Figure 6), resulting partly of deficiencies in the secondary schooling and the low educational level of many parents mentioned above. As in all countries, the socio-economic background largely determines whether or not the young commence higher education; but in Portugal, the selectivity of access is more severe than in many other countries and the participation of students from low socio-economic backgrounds remains particularly low.⁹ Moreover, while enrolment in tertiary education has increased, completion has increased much less, pointing to very high drop out and failure rates that reflect the low competences of those entering, *i.e.* students having just completed upper secondary schooling.¹⁰

Figure 6. Tertiary education attainment, 2003
As per cent of age group population



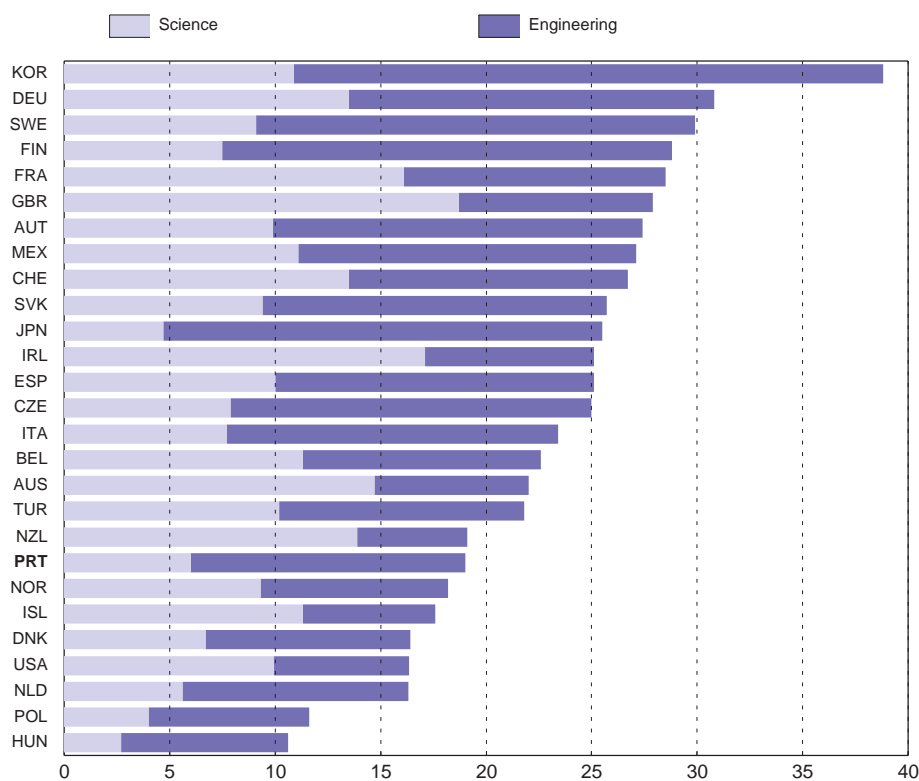
1. Data for 2002.

Source: OECD, *Education at a Glance*, 2005.

9. In Portugal, the proportion of higher education students' fathers who have achieved higher education themselves is 29% compared with 5% for the proportion of men of corresponding age in the general population (a factor of almost 6 to 1). In Germany and France, the factor is around 2 to 1.
10. In Portugal, very few students (19%) already have work experience or have completed vocational training before starting tertiary education, compared with almost two-thirds in Germany (Eurostudent Report, 2005).

13. As a result, some competences are lacking, such as scientists and engineers, as well as managers well-trained in marketing, which are needed to help the modernization of the economy and its adaptation to global competition.¹¹ For instance, despite some increase in the number of science and engineering graduates, the overall supply of such graduates continues to be low (Figure 7). Evidence on the returns to higher education is that they are high in terms of earnings. Cardoso (2004) finds no support for the prevailing scepticism over investing in higher education: the earning premium for people with tertiary education relative to those with only secondary education is high and has been increasing - by 1 point per year on average in the late 1990s - broadly in line with the increase in other OECD countries. These results are in line with OECD estimates of private rates of return to tertiary education (OECD, *Economic Survey of Portugal*, 2003). Furthermore, the proportion of graduates working in jobs below their education level (*i.e.* not requiring a university degree) has been falling. The results are consistent with the idea that skill-biased technological progress in some sectors raises the productivity of workers with higher schooling levels. The overall low participation in higher education despite high returns can be related to the (short-term) opportunity costs of staying in tertiary education and the low efficiency of some higher education institutions.

Figure 7. Science and engineering university degrees
As a percentage of total new university degrees, 2003



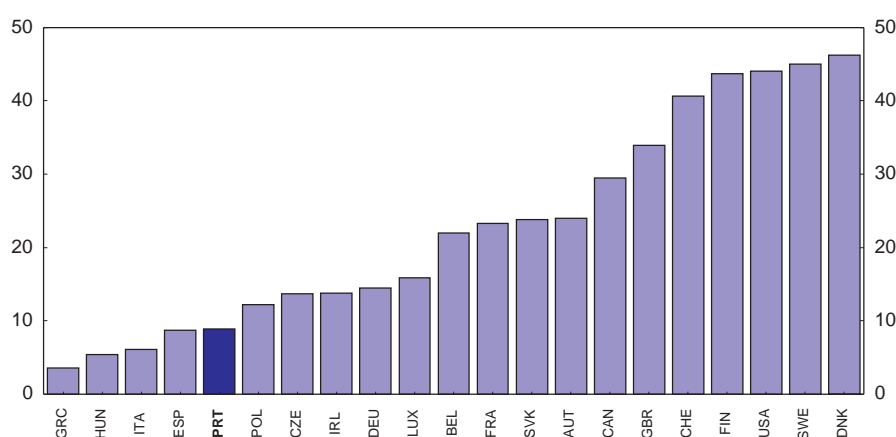
Source: Calculations based on OECD Education database, October 2005.

11. According to opinion surveys (IMD, 2004), Portugal lacks qualified engineers, while OECD indicators suggest that Portugal is weak regarding PhDs in Science.

Participation of adults in training programmes is insufficient

14. Because of the large share of the Portuguese population with low educational achievements and the lags involved in improving the competence level of the workforce, adult training is important to provide opportunities to current workers to acquire new qualifications. Adult training activities vary a lot across OECD countries with, on the one extreme, a limited number of OECD countries (Denmark, Finland, Sweden, Switzerland and the United States) having more than 40% of the labour force taking part in job-related education and training each year. At the other extreme, Portugal, like Greece, Hungary, Italy and Spain, have a low training culture: less than 10% of Portuguese employees are involved in adult training (Figure 8). Moreover, most often, employees participating in those programmes are among the younger, more qualified workers and employees of larger firms. Older generations, on the other hand, which are more in need (and often functionally illiterate) participate the least in post-school education and training. They have been able to find jobs, but in a changing environment, the risk is that they are less adaptable and restrain future growth. Typically, training has been mostly remedial in Portugal, rather than preventive. Policies that widen access to training are needed to raise Portugal's growth potential at the same time as addressing equity concerns.

Figure 8. Participation in continuing education and training¹
2003



1. Participation of the labour force (25-64 year-olds) in non-formal job related training within a 12-month period.
Source: OECD, *Education at a Glance*, 2005.

How to improve the performance of basic and upper secondary education?

15. The challenge for Portugal is to ensure that all students leave the system for the job market with a minimum of competence or are well prepared to continue into higher education.

Spending better

16. Below-average outcomes do not result from a lack of spending (Figure 9). Public spending per student is close to the European average and above what countries with a similar level of development typically spend. Measures of some key inputs, such as the number of teachers and schools per student, also show a relative abundance in comparison to other OECD countries. With much lower spending per student, most eastern European countries achieve the same or better results at PISA (Figure 10).¹² Even after adjusting PISA results by cumulative expenditure per student, Portugal remains at the bottom of the OECD rankings. This might be due to the fact that recent reforms have not yet delivered their full benefits, but it also points to efficiency issues. Afonso and St Aubyn (2005) estimated more formally the efficiency of expenditure in education provision in OECD countries by comparing PISA results (output) to resources employed (teachers per student, time spent at school); and Portugal appeared as one of the least efficient countries in the OECD, confirming the results of previous comparable analyses.¹³

17. There are obvious examples of inefficient use of resources. The most striking comes from the school network which is very dense and has not evolved with internal migration. It therefore comprises a large number of small and very small schools (less than 10 children), which are costly while not providing students with adequate teaching and learning conditions.¹⁴ This large number of small schools reflects notably the fact that local authorities are only responsible for the maintenance of school buildings and local school transport, and do not bear the high wage costs of schools which falls under the central government budget.¹⁵ Therefore, they have little incentive to close their schools and merge local schools into larger and less costly units when the school-age population shrinks. Nevertheless, these small schools have to be closed both for financial and pedagogical reasons, and solutions have to be found at the local level on providing transportation for children from isolated areas who will have to attend schools further away from where they live.

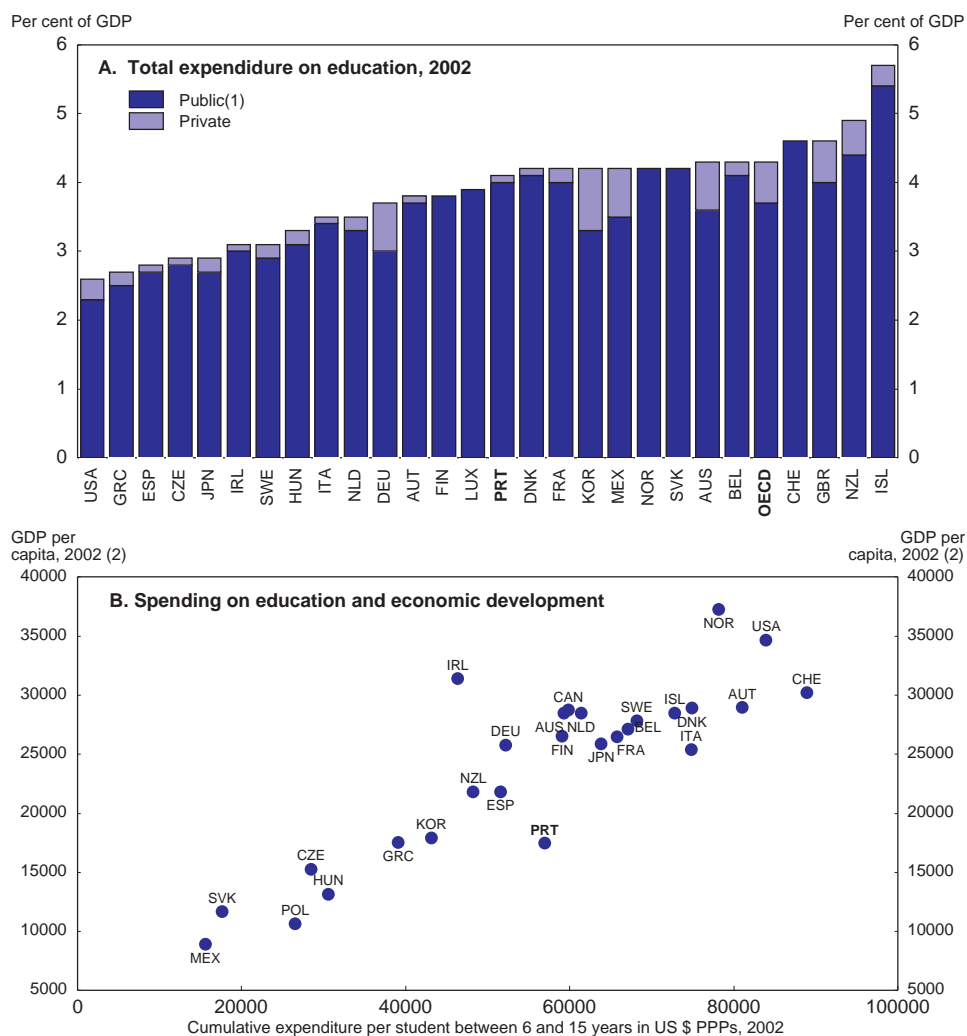
12. This lower spending per student in eastern European may also partly reflect a lower relative price of education services due to the Balassa/Samuelson and Baumol effects.

13. See for instance Afonso and St. Aubyn (2004), Khury, Herweijerand Heesakker (2004), Clements (1999). According to Afonso and St Aubyn (2005), the low education level of parents explains to a large extent the lower efficiency than in other OECD countries. Still, even children with a mother who has completed upper secondary education or tertiary education score only near the OECD average for all students in reading and slightly below in maths and science.

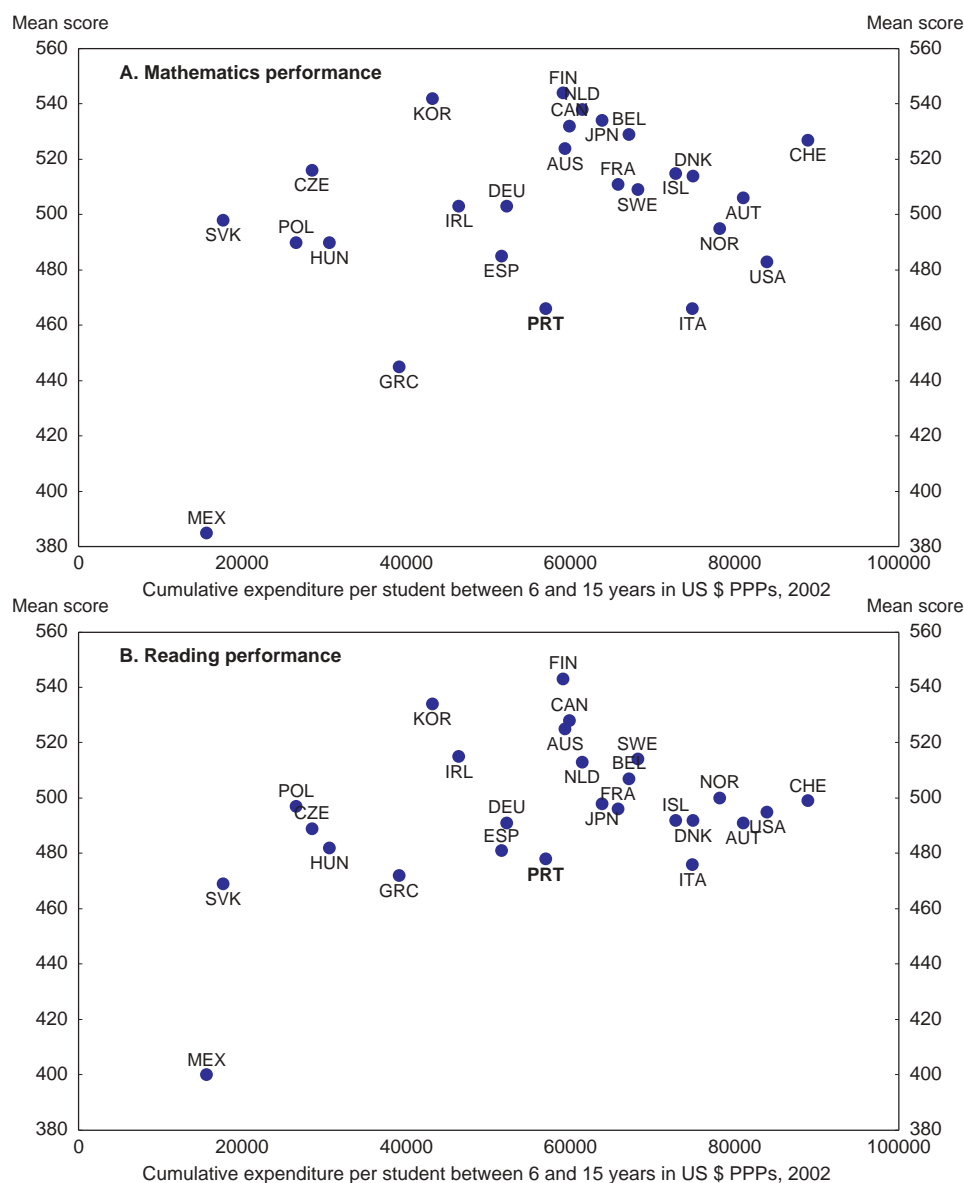
14. Students test show that these small schools have a worse performance than larger ones reflecting both the size effect (there are too few students for profitable interaction and stimulation to take place) and a high turnover of teachers.

15. The education system in Portugal is very centralised. Although some responsibilities have been devolved to schools (regarding mainly pedagogical issues) the State has retained the main ones, especially in the financing and allocation of staff. In the autonomous regions of Madeira and the Azores education is under the responsibilities of the regional governments.

Figure 9. Spending on education
Primary, secondary and post-secondary non-tertiary education



1. Public expenditure includes public subsidies to households for living costs, which are not spent on educational institutions.
 2. In US \$ at constant prices and at 2000 PPPs.
- Source: OECD, *Education at a Glance*, various issues.

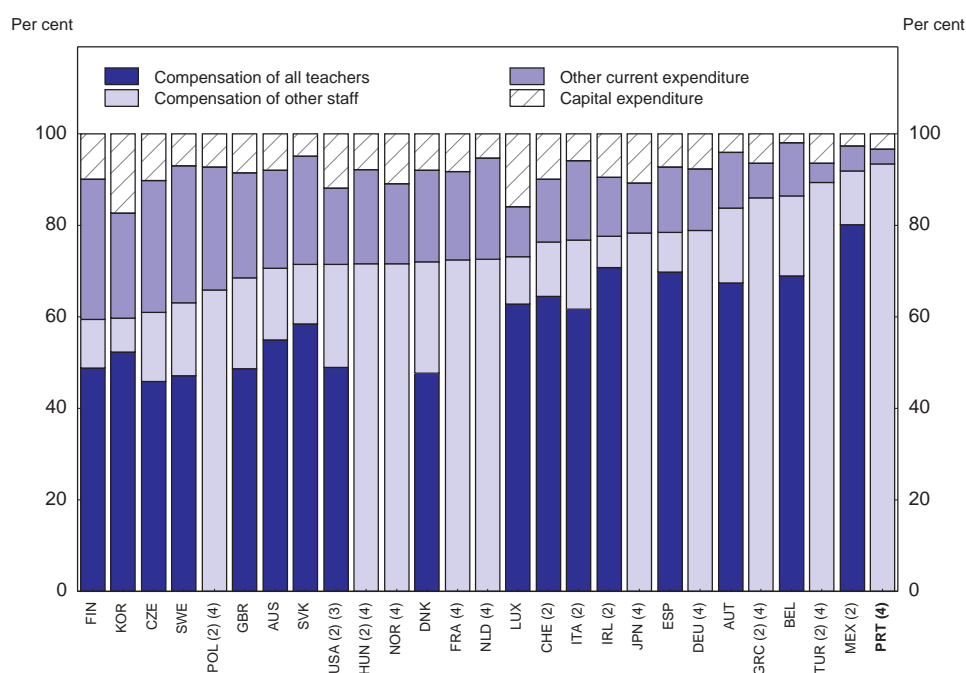
Figure 10. Spending per student up to 15 and PISA results in 2003

Source: OECD, *Learning for Tomorrow's World: First Results from PISA 2003*; OECD, *Education at a Glance* (2005).

18. The overall allocation of resources is not optimal. Although the total level of spending for primary and secondary education is in line with other OECD countries, a noticeable feature of education spending in Portugal is that most of it goes to current spending, and most current spending at primary and secondary levels goes to teachers' salaries. The wage bill represents 93.4% of total spending (compared with 74.4% on average in the OECD) (Figure 11). As a result, other spending items that are essential to the quality of teaching are well below the OECD average. Non-wage current spending accounts for only 3.2% of total spending (compared with an OECD average of 17.4%); and capital spending accounts for only 3.4% of total spending (compared with an OECD average of 8.2%). Hence, many schools do not have laboratories, lack teaching material and performing computers and sometimes face poor learning

conditions (no heating for instance).¹⁶ Two factors contribute to the importance of the wage bill. The number of students per teacher is below the OECD average.¹⁷ Moreover, while teachers' starting salaries (measured in purchasing power parity terms) are below the OECD average, they increase rapidly with experience to levels above the average (Figure 12). Overall, as a multiple of per capita income, salaries are 9% above the average for other OECD countries.

Figure 11. Distribution of total and current expenditure on educational institutions¹
By resource category in primary, secondary and post secondary non-tertiary education



1. 2002.
 2. Public institutions only.
 3. Excludes post-secondary non-tertiary.
 4. Compensation of teachers and compensation of other staff.
- Source: OECD, *Education at a Glance* (2005).

16. These lacks are to some extent reflected in Portuguese 15-year-olds' answers to PISA questionnaires about their schools. (See the PISA database for more details).
17. For instance, according to EU data, the ratio of pupils to teachers is the second lowest in the EU for primary and lower education and the lowest for upper secondary education.

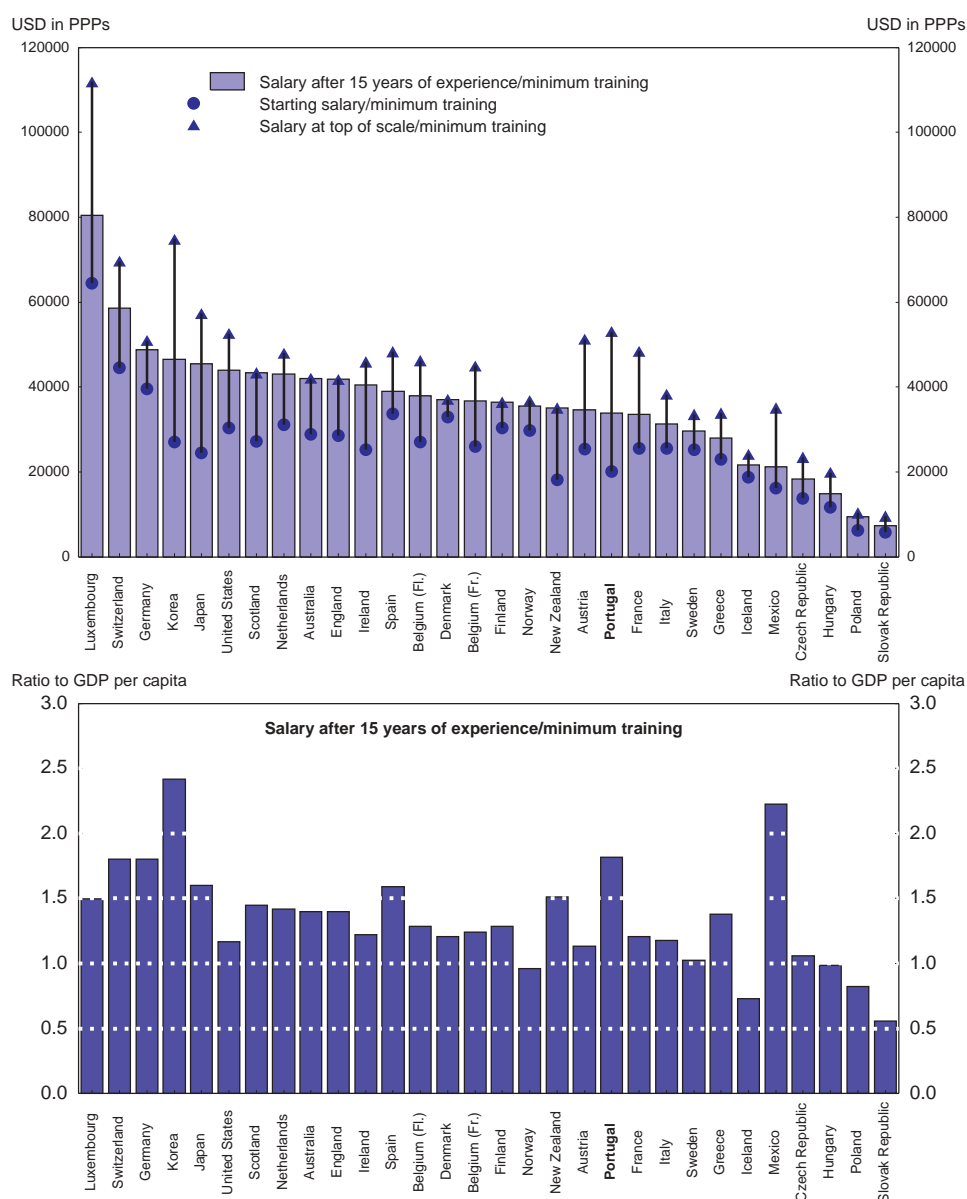
19. Efficiency issues have become the focus of recent policies as, in the context of fiscal consolidation, education has been subjected to spending limits.¹⁸ Moreover, the education system is now oversized given demographic trends: between 1991 and 2001, the number of 6-to-17 year-olds decreased by 23%. Against this background, considerable efforts have been put in to the rationalisation of supply of education services, with a view to making better use of existing resources and achieving better quality without spending more. Some progress has been made in the regrouping and closing of schools in less populated areas, but more needs to be done.¹⁹ The current policy to replace only 1 out of 2 retiring civil servants should help to progressively reduce the number of teachers, especially in primary education where teachers are older and cohorts are expected to shrink faster. The government is also trying to make a more efficient use of the teaching staff already in the system, for instance by reducing the number of teachers with reduced or no teaching time²⁰ and increasing the effective number of hours teachers spend in school; this is supposed to free up some resources to provide support classes to low achievers and facilitate the replacement of absent teachers, while reducing the need to hire new teachers. Further efforts to make a more efficient use of existing teaching staff could include retraining teachers, from primary and lower secondary school in particular, so that they can teach at different levels of education, according to needs, or even provide basic adult training. Incentive schemes to facilitate such career changes should be envisaged.

18. For instance, after years of rapid expansion, the budgets for 2003 and 2004 set a 1.6% increase limit to the primary and secondary education budget.

19. In 2001/2002 nearly 60% of public schools had fewer than 30 students, and 20% had fewer than 10 students. Despite progress (the total number of public schools has decreased by 13% between 2001/02 and 2004/05 following the closure of some small schools), in 2004/2005 still more than half of the schools had fewer than 30 students, and 17% had fewer than 10 students.

20. There are various situations in which teachers can be without teaching assignment: incapacitating illness, pre-retirement (or due to retire during the school year), school management activity, involvement in other educational activity such as support to the library, laboratories or other areas, involvement in trade union activities. Teachers that are supposed to retire during the year will be given teaching duties until their retirement date. The number of authorisations to take up other activities without a wage loss will be reduced in order to maximise the human resources available for teaching.

Figure 12. Teachers' salaries in lower secondary education (2003)



Source: OECD, *Education at a Glance*, 2005.

20. Radically changing the structure of expenditure is difficult in the short term, since under their current status teachers cannot be dismissed. In the longer run, a way to ensure that more financing is allocated in priority to non-wage expenditure, at least in upper secondary education, will be to take advantage of changes in enrolment patterns. When fewer students drop out and more attend upper secondary education, it would be efficient to let the students per teacher ratio increase, since it is relatively low compared with the OECD average; it would then be possible to have better teaching material and equipment without raising the cost per student. To reduce the wage bill markedly and free up resources for other spending, more radical measures would be necessary. They include changing the system of wage

increases and promotion in the education system, and relocating teachers outside the education system. Those can be defined within the framework of the public administration reform²¹.

Develop vocational and technical education.

21. A specific feature of the Portuguese education system has been the traditional bias in favour of general programmes aimed at preparing for tertiary education rather than work, although only a minority of students continue with their studies. Despite previous policies to diversify upper secondary education, in 2004/05, 68% of the students in upper secondary (excluding recurrent education) were enrolled in general programmes, 20% in technological programmes and 12% in vocational programmes.²² The official goal is to reduce the share of general schooling to 50% by the end of the decade and create more bridges between general education and vocational streams. This requires further developing vocational education: vocational courses (provided by the “professional schools”) usually have higher success rates and better employment rates than general education for those who do not enter tertiary education. Yet, the supply of vocational courses, though increasing, is still insufficient. According to the Ministry of Education (2004), less than half the demand for vocational courses was met in 2002/03. The ongoing strategy consists in expanding the supply with a focus on double qualification (general and professional) schemes. It is also necessary to reform technological courses, which have been characterised so far by high failure rates and relatively high unemployment rates of graduates. As a response, the strengthening of technological education is part of the more general reform of upper secondary schooling meant to reduce dropouts and increase the employability of those who decide not to continue to higher education. The goal is to increase interactions with the labour market, notably via a compulsory period of practical training. Most measures in this area are under the programme *Novas Oportunidades* being implemented in collaboration with the Ministry of Labour (Box 1).

Box 1. *Novas Oportunidades* (New Opportunities)

This initiative aims at overcoming the low levels of education of the labour force. It targets both school-age children and adults. (See also: <http://www.novasoportunidades.gov.pt/>).

For school-age children, the goal is to increase school enrolment via the diversification of the education streams, and have half of the upper secondary students enrolled in professional or technological education by 2010. The main lines of actions are to:

- Implement the plan to reduce learning failure in basic education so as to increase the number of young reaching upper secondary education;
- Create alternative streams for pupils of basic education who are at risk of repetitive failure (the educational and vocational courses, *cursos de educação e formação*);
- Increase the supply of professional courses;
- Move all the initial vocational training courses towards double certification (general and professional);
- Develop the system of information and career guidance to facilitate students' decisions;
- Improve and coordinate the management of supply by the Ministry of the Education, the Ministry of Labour and Social Security and private entities, so as to increase equity in coverage and efficiency;

21. See Guichard and Leibfritz (2006)

22. The same bias exists in recurrent education (with more than 75% of enrolments in general programmes).

- Review and harmonize the curriculum and hours provided in the different secondary education programmes offered by the Ministry of the Education, the Ministry of Labour and Social Security and private entities so as to ensure the coherence of supply;
- Reduce incentives to enter the labour market for those under 22 years who have not concluded upper secondary education;
- Review the financing model for professional schools to ensure equitable access and eliminate distortions;
- Develop a system of quality certification.

For adults, the government aims to have 1 million people certified through adult education schemes over the next five years *via* two main mechanisms: the development of the system of recognition, validation and certification of non-formal experience and an increase in enrolment in adult training of adults over 18 with low education and professional qualification levels. The main actions are to:

- Increase the supply of educational and vocational courses for adults. These courses have been developed since the beginning of the decade to facilitate the participation of the adult population in education; they target adults over 18 with low education and professional qualification levels, and mix basic training and qualifying training;
- Expand the network of Centres of Recognition, Validation and Certification of Competences (CRVCC);
- Increase the supply of basic training for all adults;
- Facilitate access to training for workers by adapting the organisation of training courses and the financing of training costs so that the current and future competitiveness of the companies is not affected, while the individual right to training is ensured;
- Promote the integrated management of the supply and the network of establishments and courses so as to guarantee the effectiveness in covering the whole country and an adequate monitoring;
- Implement a system of quality certification.

22. This focus on vocational training and technological schools is appropriate and should enable Portugal to benefit from closer relationships between schools and the business community so as to ensure that the skills and competencies provided better match the needs of the labour market. It can play an important role in reducing the early dropout problem. Besides, the current strategy of double certification and of creating bridges between the three streams (general, technical and professional) is welcome. It should help strike a good balance between technical skills and general knowledge, which is necessary for workers to adjust to new work practices and organisational structures, and for the economy to innovate. While the network of vocational training and technological schools expands it will be necessary to better coordinate the supply at the local level and closely monitor the relevance of the training proposed and the labour market needs. It is also important to ensure an adequate supply of teachers and this has to be taken into account by the teachers' schools. In the future, the financing of some vocational programmes in the regions that have lost EU structural funds might also become an issue. So far there has been on average little contribution of the business sector to the financing of professional schools but better interactions could make it possible.

23. While the supply is being diversified, it is essential to develop and strengthen students' information and career guidance services, including at the basic education levels and in professional programmes where, as in many other OECD countries, they tend to be underdeveloped. This implies in particular a need to review the functioning of these services and the training of the people in charge of counselling students, so as to converge towards the most effective systems adopted in other OECD

countries.²³ These services can potentially play an instrumental role in making children and their parents aware of the possibilities offered, but also of the high private returns of remaining at school, even in vocational upper secondary streams.

Continuing the modernisation of general curricula and the organisation of cycles

24. In recent years, several reforms have been launched in Portugal to upgrade the curricula of the different levels of basic and upper secondary education. The goal was to broaden and modernise the range of courses, with the objective of reducing dropout rates and increasing quality. Nevertheless, low achievement of students who continue their studies (as reflected by most national tests) and failure of the others suggest that more needs to be done to strengthen core areas of the curricula (in particular Portuguese and mathematics), and to develop the experimental teaching of science, which is lacking in Portugal.

25. In basic education, new programmes and new schoolbooks are progressively being introduced, with the process due to be completed by 2007.²⁴ The most recent initiative is the introduction of English in the first cycle of primary education (3rd and 4th year).²⁵ Portugal was indeed one of the EU countries where English was taught the least. A persisting problem in basic education has been the weakness of its 3rd cycle (lower secondary). Strengthening this 3rd cycle of basic education is also a priority, notably by increasing the focus on technical, technological and vocational classes.²⁶ A reform of upper secondary education was approved in May 2004, and several initiatives have already been taken with a view to reducing dropouts and strengthening the teaching of maths and science.²⁷ Beside the modernisation of the curricula and the better integration with the previous and next cycles, the reform includes: *i*) administrative reorganisation and rationalisation of the supply of education services to address inefficiencies; and *ii*) implementation of school evaluations. Implementation of the reform started with the 10th grade in the school year 2004/05 and continued with 11th grade in 2005/06. Concerning the promotion of science, the programme *ciência viva* (launched in 1996) also plays a role in supporting practical activities in schools, in partnership with research institutions and scientific associations. Overall, ongoing efforts seem to go in the right direction and need to continue. Their implementation and outcomes should be monitored closely.

26. At all levels, important advances have been made in boosting technical courses and giving greater emphasis to information and communication technology. Since the beginning of 2002, all schools have been connected to the Internet. Courses in ICT became compulsory at the secondary level (9th grade)

23. See for instance OECD/European Communities (2004) *Career Guidance - a handbook for policy makers* which notably presents examples of successful systems.

24. Following the curricular revisions of the 1st and 2nd cycles already in place, the 3rd cycle revision started in 2002/3. Among the main measures: the same disciplines are taught in the 3 years; a second foreign language and a new discipline of "Technological Education" has become compulsory; classes are organised in 90 minutes periods; a new compulsory discipline of "Introduction to ICT", and national final exams of Mathematics and Portuguese language have been introduced in the 9th grade.

25. The school day, which was typically of only 4 or 5 hours, has been lengthened to include English classes as well as sports and arts.

26. According to the previous administration, the unity of teaching in basic education, from primary to lower secondary, does not leave room for the flexibility needed for lower secondary education and it was planned to reorganise education cycles into 6 years of primary education (first two cycles of basic education) and 6 years of secondary (lower and upper secondary education). The Framework Law that included this measure was not passed. The new administration has decided not to change the organisation of the system.

27. The previous reform (2001) was cancelled a year later and was less focused on ensuring interactions with the labour market.

in 2004. The challenge is now to increase the quality of the equipment and services available, ensure adequate maintenance and reduce the ratio of pupils per Internet-connected PC.²⁸

Reducing school failure

27. Preventing low achievers from being left behind is key for improving the system performance in terms of both efficiency and equity. School failure and repetition are a source of inefficiency *via* the costs associated with pupils dropping out without completing a cycle or taking one or more years longer to complete it.²⁹ Furthermore, as they affect more the children from low-income backgrounds, they also raise equity concerns. Beside the general policy to strengthen the quality of education services and to diversify the provision of secondary education, more specific policies are thus called for.

28. Regarding repetition, the countries that perform best at PISA (in particular, the top performer Finland) are those which devote most efforts to not leaving under-performing students behind. In Portugal, the official position of the Ministry of Education is that repetition usually does not help to improve the students' future achievement and should be used only as a last resort. However, in practice, repetition is frequent and still considered as the main tool to correct learning lags and ensure future success. The Ministry is fully aware of the situation and is trying to promote alternatives to repetition. Already in 1996, a programme setting up classes with special curricula for children in situations of repetitive failure was launched. Evaluations have shown some success in enabling such children to complete compulsory education. The authorities are now promoting individualised support and new curricula for low achievers.³⁰ A measure was introduced recently, obliging schools to identify students at risk and either provide repair courses or reorient them to another stream. Teachers have been asked to stay in school for longer hours in order to tutor weak students. And schools have in theory the autonomy to adapt official curricula to specific needs. It is, however, uncertain whether the current system has the ability to detect potential learning problems early enough. The main factors for the persistence of repetition as the main tool for overcoming learning deficiencies, despite official national guidelines against it, seem to be weaknesses in the training of teachers and in school organisation, and perhaps inefficient communication between the central government and schools. All these issues have to be addressed.

29. The decision to eliminate the social contribution rebate for companies that hire young workers unless they have completed 12 years at school or are in training is very welcome. Suppressing this *de facto* subsidy to school dropout should reduce incentives for firms to hire early school leavers. Better information and career guidance in schools would be a good complement in order to help students understand the usefulness of continuing their studies (and at least complete upper secondary education), find a programme matching their preferences/abilities and, if they really want to leave school, ensure a smooth school-to-work transition and inform them of the possibilities to reengage in studies later on if they change their mind.

30. The government has announced its intention to have all children attending school or training until they are 18. To achieve this goal, framework conditions have to be improved. It would not be appropriate

28. The State also financially supports the purchase of low-price computers by students.

29. According to the Ministry of Education, in 2003 the repetition rate was 13% in basic education and 33.7% in upper secondary education.

30. Special efforts are also devoted to facilitate the integration of immigrant children, notably via the Board for Multicultural Education (*Entreculturas*) created in 1991. In particular the Intercultural Education Project (PEI) (covering 50 schools) has succeeded in improving non native children's academic results and social integration and has helped develop new curricula. The authorities are in the process of specifying guidelines to teach the Portuguese language as a second language in basic and upper secondary education. Despite progress a key issue remains the training of school staff for dealing with multicultural students.

to simply lengthen compulsory secondary education. Only a small number of OECD countries have 12 years of compulsory schooling.³¹ The most important is to further diversify and strengthen upper secondary education, with improved vocational and technological education in particular, as recognised in the current strategy. If on-going measures deliver the expected benefits and relevant education is provided to the 15-to-18-year olds, children may well stay at school for as long as in other OECD countries.

31. A key policy to reduce dropouts and repetition by giving better chances to students from low-income backgrounds has been the development of preschool, in particular with the expansion of coverage for 5 year-olds. The government now targets a full coverage of 5 year-olds by 2009 and an expansion of coverage for younger children. However, according to the OECD PISA survey, and contrary to most other OECD countries' experiences, in Portugal attendance of preschool has not made an obvious difference in outcomes, especially when the mother has a low level of education.³² The explanation is probably that preschool education that was provided 10 years ago tended to be too loosely structured, play-oriented and geared toward care and social aims.³³ Curricula and organisation reforms since then are likely to have made preschool more relevant.³⁴ In order to ensure that this is the case a detailed evaluation of the impact of these reforms is necessary.

32. Some factors that tend to anchor inequities linked to social background have not been addressed and are not on the policy agenda. The 2003 *OECD Economic Survey of Portugal* expressed some concerns about inequity and risks of social segregation resulting from the fact that private schools receive much less public financing than public ones and charge high fees. Payment of school fees entitles parents to a capped tax credit.³⁵ The unequal distribution of students across schools based on their parents' occupation is the largest in the EU after Greece.³⁶ Public facilities take a greater share of the children from low-income families and with special needs. With the allocation of students to schools based solely on residence criteria, only the most advantaged groups have the choice to either put their children in a good private school or to buy/rent a home near a good public school. Some OECD countries have allowed parental choice of school, while letting public funding follow the students as a type of voucher, thereby allowing public and private schools to compete. In addition to limiting segregation, these instruments can increase

31. In most EU countries school is compulsory up to the age of 16, and in some others till the age of 15, as now in Portugal. School is compulsory until the age of 18 in only Belgium, Germany, Netherlands, Hungary and Poland. Mexico, on the other hand, has chosen to extend compulsory schooling to the first grade of preschool (for 3 year-olds) (Guichard 2005).

32. Chagas Lopez, Medeiros and Pinto (2005) "Does school improve equity? Some key findings from Portuguese data" also show that preschool attendance (in the 1990s) does not have a significant impact on preventing class repetition for the cohort of students now enrolled in secondary education.

33. A key policy change is the 1997 Framework Law which co-ordinates the until-then diverse provision for young children education, and includes preschool in Basic Education. See OECD (2000) Early Childhood Education and Care - Portugal: Country Note.

34. The key elements of successful policy promoting equitable access to quality preschool have been identified by the OECD (2001) as including a systemic and integrated approach to policy development and implementation, a strong and equal partnership with the education system, a universal approach to access, with particular attention to children in need of special support, substantial public investment in services and the infrastructure, a participatory approach to quality improvement and assurance, appropriate training and working conditions for staff in all forms of provision, a stable framework and long-term agenda for research and evaluation.

35. The introduction of a tax credit in 1999, in replacement of the earlier tax allowance system regime, was an improvement in terms of redistributive impact, although Reis (2000) estimates that the redistributive impact appears as very small.

36. See European Group of Research on Equity of the Educational Systems (2003).

efficiency by putting competitive pressures on schools. However, evidence of the impact of voucher systems on education outcomes is mixed.³⁷ To ensure a level playing field between private and public school and to avoid social segregation, Sweden and the Netherlands provide private schools with the same level of public funding as public schools. Sweden also prevents private schools from charging tuition fees, while in the Netherlands market competition is sufficient to prevent private schools from charging fees. In the case of Portugal, given the low educational level of a large share of parents for whom it would be difficult to take well-informed decisions, a voucher system might not be a solution, at least in the short term.

Further improving training of teachers

33. The quality of teachers is an issue. There is a consensus that a share of the teaching staff, especially the staff hired when the system was expanding rapidly, received poor initial education and training and therefore lack a good knowledge of either the subject taught or of pedagogy or both. The progressive development and strengthening of teachers colleges over the past decades has partly solved this issue for the younger generation. However, the supply has not fully evolved in line with the modernisation and diversification of the curricula, and some teachers, especially in professional programmes, are still hired directly from among young university graduates with no pedagogical training (whether general or linked to the subject they teach). There is a lack of teachers in professional paths in particular, as initial teacher education programmes focus on general education. It is important to ensure a better matching between the anticipated needs of the education system and the supply of initial education by teachers colleges. When specialised teachers have to be hired from outside these colleges, a minimum initial pedagogic education should be compulsory before taking up a position. Pedagogical certification is now required for professionals who provide vocational training courses financed by public funds. It is important that the increasing demand for vocational courses be met not only by an expansion of supply but also improved preparation of trainers so that they do provide high quality courses.

34. The issue of weak initial education is compounded by poor on-the-job training and an inadequate evaluation system of teachers. Both need to be reformed. The system of evaluation and promotion of teachers is not based on the quality of the teaching in the classroom but on whether or not teachers attend training. At the same time, training is mainly supply driven and often unrelated with schools' and teachers' needs. Whether the training received was relevant or not to the topic taught or to the teachers' or schools' needs has not so far been taken into account in evaluations. And teachers who are willing to improve their skills often do not find appropriate courses. Overall, teachers, although on average quite young and therefore presumably adaptable to new curricula and teaching techniques, are not really given the chance to improve, and a large part of the resources spent on teacher training so far appears to have been wasted. To raise both the quality of teaching and spending efficiency, there is therefore an urgent need to rationalise and improve teachers' on-the job training and bring it more into line with needs.³⁸ Schools have a role to play in helping to identify the type of training that is needed, so as to make the system more demand driven. As a very first step, the new administration has decided to impose that half the training taken into account for career advancement is related to the subjects taught. More specific actions are also required in areas where there are clear weaknesses. For instance, a key area where teachers' skills are deficient is mathematics. As a response, the government recently launched a programme to retrain teachers in the first cycle of basic education (elementary cycle) in mathematics. It also aims at providing these teachers with training in teaching Portuguese and teaching experimental science. In addition, besides training, a good evaluation and feedback system is important for teachers' professional development. This is linked to the needed change in teachers' evaluation and promotion discussed below.

37. See Ladd (2002) and OECD (2002).

38. According to OECD (2005b), successful programmes involve teachers in learning activities that are similar to ones they will use with their students and encourage the development of teachers' learning communities.

Fostering evaluations and improving incentives

35. Focusing on outcomes and putting in place good evaluation and accountability systems is essential to efficiency. Evaluations of schools were developed in recent years so as to help improve quality.³⁹ In July 2002, a new law for the creation of a comprehensive system of evaluation of all non-tertiary schools was approved, promoting self-evaluation and external evaluation of schools; public disclosure and certification of results; and rewarding best performers. However, although in line with good practices on paper, this reform has not yet been fully implemented. There are now two national exams: one at the end of compulsory education in maths and Portuguese (which is used to decide on passing to next grade) and one at the end of upper secondary. In addition, 25% of students are tested at the end of the first two cycles of basic education. So far these evaluations have not been used to identify areas for improvement, or to promote changes in schools, or even to design policies. A very important step is the recent decision to really start using evaluation results to design policies and improve the system. For instance, the results of the maths test at the end of the 9th grade have been analysed so as to improve teaching in maths. More systematic efforts in this direction are needed to improve evaluation systems and channel the results to those who deliver educational services (teachers, school principals), manage them and use them (children and parents) and to ensure that evaluation results are used to influence policy decisions, school management and users' choice.

36. The system of teachers' evaluation has to be reformed to take into account what they do in the classroom and how they contribute to improve practices in schools. This would also make teachers feel that their work is important and valued and would be instrumental in identifying priorities for professional development. The new assessment procedure of teachers is being reviewed in the context of the public administration reform scheduled for 2006 (see Guichard and Leibfritz 2006). Then, schemes that relate promotions and pay to performance will be defined so as to give better incentives to teachers.⁴⁰ Research in this area has shown that group and school-based performance incentive schemes have been more promising than "merit pay" systems that provide individual teachers with higher pay based on student performance on standardised tests and classroom observation (see OECD 2005b). Such schemes would be particularly relevant for strengthening pedagogical teams in Portugal where, as described below, teachers are quite isolated from each other and school leadership is weak.

37. A systematic evaluation of reforms and programmes is lacking. The reform process could be improved by identifying the reasons why some reforms failed or were not implemented and by expanding the successful ones. The government is planning to put in place an information system to monitor starting in 2006 what is occurring in the schools following the most recent changes in the curricula. This is a good step and has to be implemented and generalised. To strengthen the reform process, it is indeed essential to further develop systematic evaluation of policies and programmes.

Giving effective autonomy to school and teachers

38. Recent programmes in Portugal have devolved more autonomy to schools. A large part of the policy to reduce dropout rates, support low achievers and improve quality is based on individual initiatives to be taken at the school level. The Ministry of Education defines the curricula, but schools can adapt their organisation to local conditions. For instance, primary schools are free to decide on the allocation of half of their teaching time. The new administration has announced its determination to go further in putting schools at the centre while continuing the rationalisation of the network. The medium-term objective is to limit the role of the Ministry of Education to the functions of financing and regulation of the system,

39. See Ministry of Education (2004).

40. The fact that 40% of teachers have already reached the last two grades of the teachers careers will be an additional difficulty.

curricular design and development, evaluation and control. Regions would be given more autonomy in educational planning and the management of the physical and human resources other than teachers, and schools would get more autonomy and responsibilities in strategic, pedagogical, administrative, financial and organisational decisions. Thus, the recently approved lengthening of the 1st cycle timetable and the teaching of English in primary education are to be implemented following a decentralised and flexible model involving schools, groups of schools, local authorities and parents' associations. At the same time, schools would face stronger evaluations of results and development. This decentralisation process will rely on autonomy contracts signed between schools and the government and will start with a few pilot cases.⁴¹ This approach is in line with the growing presumption that the devolution of responsibilities to local authorities and schools brings efficiency (see OECD 2004b, and 2005c). Although there is no common model concerning the degree of decentralisation, local authorities and schools have substantial autonomy to adapt educational content and/or allocate and manage resources in most countries that performed well in PISA surveys (this is the case in England, Korea, Finland, Japan, the Netherlands for instance; Australia, on the other hand, had above average PISA performance with very little devolution of responsibilities to schools).⁴²

39. A key obstacle to this strategy is that, so far, many schools in Portugal have not been using the autonomy they already have. Very few are trying to adapt the curricula, develop special support for low achievers or adopt innovative practices. In practice, the system remains too rigid and centralised to respond adequately to the heterogeneity of students' backgrounds and the problems that it poses. Several factors might play a role. In an environment where everything used to come from the Ministry of Education, the appointment of school principals who are elected for three years among the teaching staff (by all teaching and non-teaching school staff, representatives of parents and students) to deal mainly with administrative tasks, does not prepare them to take initiatives and responsibilities. No prior or in-service training is required to be a principal. Such a gap between the new responsibilities and the training received by school principals exists in many OECD countries, but it seems more pronounced in Portugal. It is essential to identify more precisely (by surveys for instance) the factors behind the existing gap and to address the problems. Several types of action should be considered.

- It is first essential to review the role of principals and their careers and strengthen their selection and training process. Teachers seeking a career change should be encouraged to take up these responsibilities. Efficient systems of school principals training leading to effective school leadership can be found in the UK and Australia.⁴³ At a later stage, the principals' responsibilities could be enhanced, for instance by giving them a voice in the teacher selection process so as to ensure that new teachers match the specific needs of their schools. They have already been selecting, together with local authorities, the new English teachers for elementary education. The new framework for evaluations remuneration and career should consider financial rewards for performing school principals.
- Teachers have to be better prepared for this new environment and their evaluation and promotion system should take into account initiative and effective use of autonomy.

41. The possibility of autonomy contracts between schools and the Ministry of Education exists already in the law but so far only one contract has been made formal.

42. In the case of Korea and to some extent also in Japan the good PISA performance has also been attributed to the extensive private tutoring which supplements public education.

43. See OECD (2005b). In Portugal, prior training in school management is not even required to become a principal.

- Pedagogical teams have to be strengthened. In the current environment, teachers tend to be isolated and schools pedagogical councils are largely underused. The high mobility of teachers, especially in the first years of their careers (overall about a third of teachers change schools every year) makes it difficult to build strong pedagogical teams within schools. Recent legislation limits turnover by imposing a three- to four - year minimum assignment in the same school. This should help strengthening school teams. Promoting collective activities by groups of teachers working together on a project would be another step in that direction. Redefining the tasks of the pedagogical councils could also help; Spain is an interesting example of how to involve teachers in schools via such councils (OECD 2005c).
- It is also important that education reforms be clearly explained and implemented. Indeed, the gap between the framework and its effective use at the school level also reflects the lack of continuity and weak implementation of policies at the central level, which does not help spreading changes across the system.
- Lastly, better informing parents of the possibilities offered to schools so that they put pressure on schools to use them could also play a role.⁴⁴

Assessment of the ongoing reforms

40. Overall, the key problems in basic and secondary education have been identified by the Portuguese authorities, although a more systematic evaluation of past policies and results could help fine tune the diagnosis. The series of measures and reforms that have been launched recently or are under consideration form a consistent package that seems to go in the right direction with some welcome continuity with the policies envisaged by the previous administration. The strategy includes both programmes that should have positive results in the medium term (for instance the strengthening of elementary schools, the expansion of pre-school, better detection and care of low achievers) and measures with a potential favourable short-term impact (diversification of upper secondary education, strengthening of vocational and technological streams, removal of the social contribution rebate for enterprises that hire young workers who have dropped out from school). Nevertheless, the implementation of reforms once they have been decided continues to be a challenge at the central, the regional and the school levels. Because it takes time until the returns to better education bear fruit in terms of higher economic growth, implementation of measures to improve education services should not be delayed. Current labour market slack should compound the positive impact of such measures, helping to keep children in school by reducing work opportunities. A larger involvement of all actors in the reform process could also help (Chile and Italy have for instance been able to involve teachers in education reforms).⁴⁵ In addition it is essential to: *i*) develop the education and career guidance services to students so as to make them more aware of the value of school, ensuring a better transition from school to work, and informing them of the possibilities to reengage in studies later on; *ii*) redefine the role of school principals and adapt their selection and training; *iii*) identify and address the factors behind the gap between official school autonomy and the way the system works; and *iv*) within the public administration reform framework, review the evaluation of teachers and principals and set up some reward schemes providing effective incentives to relevant training and to better performance. Specific recommendations to improve the cost efficiency of education spending and the overall performance of the education system are summarised in Box 3.

44. Other OECD country experience shows that special attention should be given to schools in low socio-economic neighbourhoods to assist parents in playing an active role in schools.

45. See OECD (2005c) *op cit*.

Providing better tertiary education to a broader public

The higher education system needs to be rationalised and to attract a new public

41. Most of the expansion in tertiary education has been accounted for by the development of non-university institutions, *i.e.* polytechnic schools, which by 2001 represented more than 40% of all students. Today, with 30 universities and 130 polytechnic schools, there is overcapacity in tertiary education with probably too many institutions.⁴⁶ To meet fast rising demand, low-cost programmes were developed, particularly in the private sector, so that there is some concern about the quality and diversity of supply relative to labour market needs. As the number of potential students is now declining (because of demographic developments),⁴⁷ institutions are heavily competing for students, and private institutions are in a more difficult position, since they charge higher fees and offer in general lower quality education - although there are examples of private institutions offering high-quality teaching. The quality of scientific teaching, in particular, needs to be strengthened. The students' often insufficient secondary-level education in mathematics and science makes the task difficult. Another factor in the weakness of scientific teaching in some higher education institutions is that these programmes are more costly to run and institutions may be unwilling or unable to spend the adequate amounts.

42. The performance of tertiary education varies across institutions. Universities are more selective than polytechnics and typically provide better quality teaching. Public universities have been selecting students and charging moderate fees. They therefore tend to have the best students, who often come from more affluent/more educated families, because of the opportunity cost of continuing studies and because they were those performing the best in secondary schooling. The number of PhDs hired in higher education institutions has increased considerably (in public universities they now account for slightly more than half the staff) and the capacity of universities to offer PhD programmes has also increased. On the other hand, polytechnic schools face problems of low quality, in some cases, and unclear objectives in terms of their role within the overall higher education system. Enrolment has been declining for some years and, now that selection rules for access to higher education have been tightened, the decline is likely to become more marked.

43. The tertiary education system should therefore undergo in-depth reorganisation and rationalisation, which will necessarily imply reducing the number of institutions through mergers or even shut-downs and streamlining disciplines taught in view of requirements for the future. While the average student/teaching staff ratio was around 12 in public universities (13 in public polytechnics) in 2002, there are some institutions with no students enrolled and within institutions there are some disciplines with few or no students, and some teachers holding multiple teaching positions. The 2003 Law establishes that the Ministry can close down programmes with low enrolment or programmes and institutions which obtain poor results in the accreditation system (see below), and the new government has stated its intention to rationalise the higher education system. But accreditation has not yet started and the details and timing of the intended reorganisation remain unknown. In response to the decline in the number of potential students in polytechnics, these institutions should seek to attract a new public, *i.e.* adults in need of upskilling.

46. The private (and cooperative) sector is made up of 14 universities, a number of institutes and more than 100 polytechnic schools. The public sector comprises 15 universities, some of which very big, with several campuses, and over 30 polytechnics. Enrolment in private institutions, which expanded until the mid-1990s, amounts to one fourth of the total. There is also a large catholic university.

47. The number of 15-19 year old persons, close to 600 000 in 2005, is projected to decline to 559 000 in 10 years from now, while the number of the 20-24 year olds is expected to decline from 721 500 to 561 400.

Enhancing quality and diversity by clearer objectives and better evaluation...

44. The higher education system is not sufficiently diversified and specialized to respond well to the changing needs of the economy and society as a whole and to provide students with the ability to learn new competences after they graduate and throughout their working life. The role of the various institutions has to be redefined more clearly. Universities should be in charge of teaching and research, *i.e.* the accumulation of knowledge and creation of new ideas in the various fields, working in cooperation with companies when appropriate. The government is right to be concerned about strengthening international links and establishing international research networks, to guarantee the quality of programmes. Polytechnics should play a complementary role to universities and some specialisation would be desirable. Polytechnics should become more responsive to the market and industry's needs. Given their wide dispersion across the country, they should also be involved in the development of lifelong learning. The on-going changes to create more flexibility for part-time study and to recognize acquired competencies in the admission system could facilitate enrolment of working students. Polytechnics are well placed to develop better partnerships with secondary education, and could also be better linked with universities. The authorities are stressing the importance of establishing "knowledge networks" involving the various education sub-systems and research institutions. This will require setting clear objectives for the different sub-systems⁴⁸

45. Policies should focus on ensuring quality improvements and a more equal access to tertiary education, with the objective of increasing success rates and reducing drop outs in universities and polytechnics, particularly in the initial years of education. Pre-entry selection rules were changed several times; following a period of selective access to tertiary education, entrance conditions were loosened in the late 1980s. Then, starting in 1998, the national examination at the end of secondary schooling was re-introduced as a pre-requisite for entering higher education. There is a generalized *numerus clausus* that establishes quantitative limitations to the admission for all courses in all higher education institutions, whether public or private, university or polytechnic.⁴⁹ The 2003 Law regulating higher education stipulates that students finishing upper secondary with below-average results on only two pre-defined basic disciplines for each programme would be denied access to the *numerus clausus* system, with application of this rule as from 2005-06.⁵⁰ Institutions will be able to raise the threshold for admission, hence be more selective; but they will not be allowed to lower it. The impact of the measure is likely to affect the limited number of institutions which have tended to accept less qualified students.

46. Systematic evaluation of tertiary education, which would contribute to enhancing quality of education services, has yet to start. Procedures to evaluate study programmes were established several years ago; evaluations, both internal and external were to be conducted every 5 years. The 2003 Law in addition established a system of accreditation to ensure that institutions meet quality criteria in particular

48. Several OECD countries are witnessing a development of strategic alliances, networks and partnerships that involve different institutions, both domestically and internationally - a development which has been brought about by the new context of more intense competition in the higher education system. For details, see OECD (2005d).

49. Conditions have very much changed since the times when the *numerus clausus* was introduced to regulate fast rising demand. For some years now, students' demand is no longer larger than institutional supply. More recently, the *numerus clausus* has been used to regulate access in a few areas - medicine and architecture - where students' demand is larger than institutional supply, and to regulate the geographic distribution of admissions to make the best use of available physical capacity throughout the country (for the polytechnic system in particular).

50. Completion of upper secondary schooling is based on a final mark established by each school based on a student's results during the last two years in upper secondary education in that school.

fields of study.⁵¹ However, in practice, evaluations have not been systematic and accreditation was not implemented. It is important that an accreditation system be designed, regulated and implemented, following practices already prevailing internationally, including at the European level. With entrance conditions for students now tightened and quality standards for higher education institutions being established, it would be desirable to abolish the generalized *numerus clausus*. Quantitative limitations are an inefficient tool to regulate admission in higher education, because they distort the signals associated with the returns to education that are provided by the labour market. These signals should influence students' decisions on where to invest.

47. The government has launched several projects to implement an overall evaluation of the higher education system: *first*, a system evaluation is to be carried out by the OECD in 2006; *second*, an assessment of accreditation and evaluation practices has been commissioned to the European Network for Quality Assessment (ENQA); *third*, a voluntary system of institutional evaluations has been commissioned from the European University Association. In practice, however, the higher education system reorganisation is unlikely to start before the results of the on-going international studies become available. To ensure speed of implementation, steps should be taken in the meantime to review the existing evaluation law and to establish the appropriate legal framework.

... and by introducing more competition

48. Some degree of competition is desirable in tertiary education at various levels: *i)* among universities, which requires that students have access to sufficient information; *ii)* among teachers, which requires that they are better evaluated; and *iii)* among students, which requires that they have to meet appropriate admission standards. There are already some elements of competition in Portugal's tertiary education system as in many other European countries: students do compete for vacancies in the *numerus clausus* system; institutions are increasingly competing for students because capacity is abundant while the student cohorts are shrinking; academic staff compete for research funds provided by the Foundation for Science and Technology (FCT) and other funding agencies. The authorities are also seeking to enhance effective competition by introducing performance indicators in the funding formula (see below). And, although they are yet to be applied, regulations foresee that only universities with a positive quality assessment will be allowed to provide PhD programmes.

49. However, there is no general system for individual assessment of academic staff. As in many other OECD countries, it is difficult to get reliable and relevant information on academic quality. Students typically choose institutions close to their homes. Regarding teaching methods in Portugal as elsewhere in Europe, there is an increasing concern to move away from a system fostering the transmission of specific knowledge (likely to become obsolete in the future) towards competence building, *i.e.* developing the ability to learn new skills in the future (learning how to learn). The government intends to implement the Bologna process and higher education institutions are beginning to implement the process, which should be completed by 2010 according to EU guidelines (See Annex A2).

50. More flexibility in teachers' careers is required, so as to permit promotions on merit rather than on seniority. This will be difficult to implement without increasing the overall wage bill. Another way to enhance teaching standards would be to review mobility practices and to disclose competences. Establishing minimum marks for student's admission procedures, as was recently introduced, or limiting

51. The National Council for the Evaluation of Higher Education (CNAVES) was set up in the 1990s to establish guidelines for the evaluation procedures. Under the legislation introduced in 2003, accreditation is a requirement for the creation of a new institution, or new departments in existing institutions, and the Ministry in charge of higher education intends to use results to close down institutions or programmes.

the number of class repetitions for poorly performing students, can also contribute to improving the quality of education.

51. Universities' autonomy is limited, even though each institution is free to organise its internal structure by department and by faculty. The government continues to give authorisation for large investments, establish the number of positions of academic and non-academic staff and determine the *numerus clausus*. The current government has announced its intention to revise the University Autonomy Law, with a view to provide more autonomy to the different types of institutions, while increasing their level of accountability. In exchange for more autonomy in their organisation and management, institutions will have to adjust their governance to be able to meet the requirements of being more responsible and accountable. It remains unclear whether institutions will be given enough freedom in setting tuition fees.⁵² Opening institutions to the outside society and for instance allowing greater participation of external shareholders in governance bodies, as intended in the government's strategy, would be appropriate.

Reforming tertiary education financing

There is no obvious over-spending in tertiary education

52. Total spending on tertiary education has expanded in tandem with enrolment. Spending per student remains relatively low (excluding R&D activities), both by OECD standards and *vis-à-vis* other levels of education (Figures 13 and 14). Taxpayers pay for 90% of national expenditure on higher education.⁵³ Supporting higher education (and innovation) is a budget priority in Portugal. However, the low growth of the economy and the restrictive fiscal policy stance limit the amounts which can be spent in this area.

53. Although there is no obvious over-spending in tertiary education, important efficiency gains could probably be achieved through rationalising the supply of services (re-allocating resources across areas, closing up programmes with small number of students, etc).⁵⁴ Merging of some universities or polytechnics and the creation of "knowledge networks" could also help to achieve economies of scale and improve quality. For the time being, enrolment is declining and the 2006 budget for higher education has allowed an increase in spending per student - of about 3% relative to 2005. In the longer run, however, the impact of demographic trends could be offset by current policies aimed at promoting wider access, improving completion of secondary schooling and attracting a new public in lifelong learning. The government's strategy, if it is successful, is expected to induce a wider proportion of the youth and adults to enrol in higher education. The state will not have the budget resources required to provide good quality

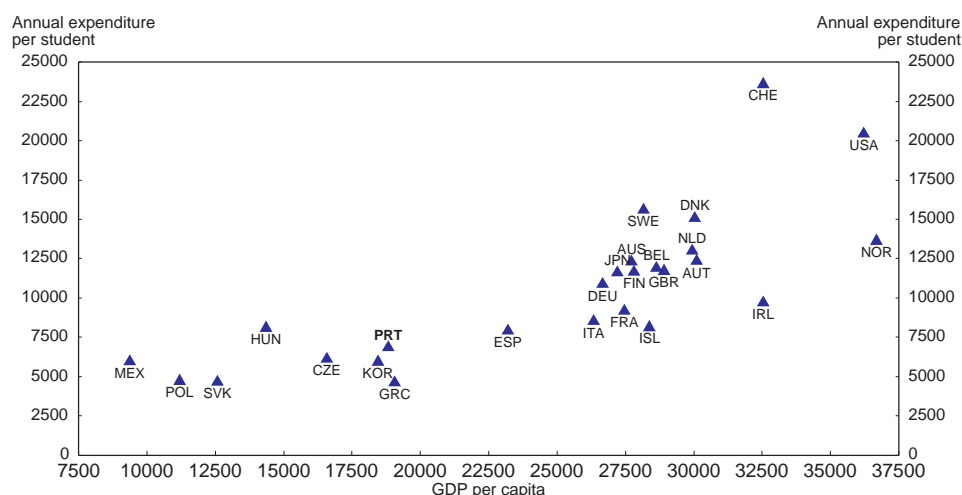
52. Tuition fees for undergraduate studies (*licenciatura* or 1st cycle as redefined in the Bologna process) are constrained to be of a marginal amount by a constitutional amendment. They have to be situated within a range, the minimum annual fee being equal to 1.3 monthly minimum wages and the maximum set at 900 euros (the 1 942 fee updated for inflation). Graduate studies at the master level (*mestrado*, or 2nd cycle as redefined in the Bologna process) are under no constraints, except when the master level is compulsory for the practice of a profession (then fees are under the same constraint as for undergraduate studies). For doctorate studies, institutions set the fees freely.

53. Cf. OECD *Education at a glance*, 2005. Considering transfers to institutions in the public education system and social support to students foreseen in the 2006 budget and including expected financing from student fees, spending per student is estimated to rise to about 8 200 euros (PPPs), excluding investment and financing of research, which is fairly low by OECD standards.

54. A. Afonso and M. Santos (2005), using data envelopment analysis on 2003 data, imply that the allocation of scarce public financial resources available for public universities could be improved. They are able to separate public universities that might qualify as "performing well" from others where some improvements in terms of efficiency can be made.

education for all - nor should it. In general, public money may be better spent on early childhood and compulsory schooling, which are the main determinants of equity in educational attainment (Carneiro and Heckman, 2003).

Figure 13. Expenditure in tertiary education relative to GDP per capita
2002, USD (PPPs)



Source: OECD, *Education at a Glance* 2005.

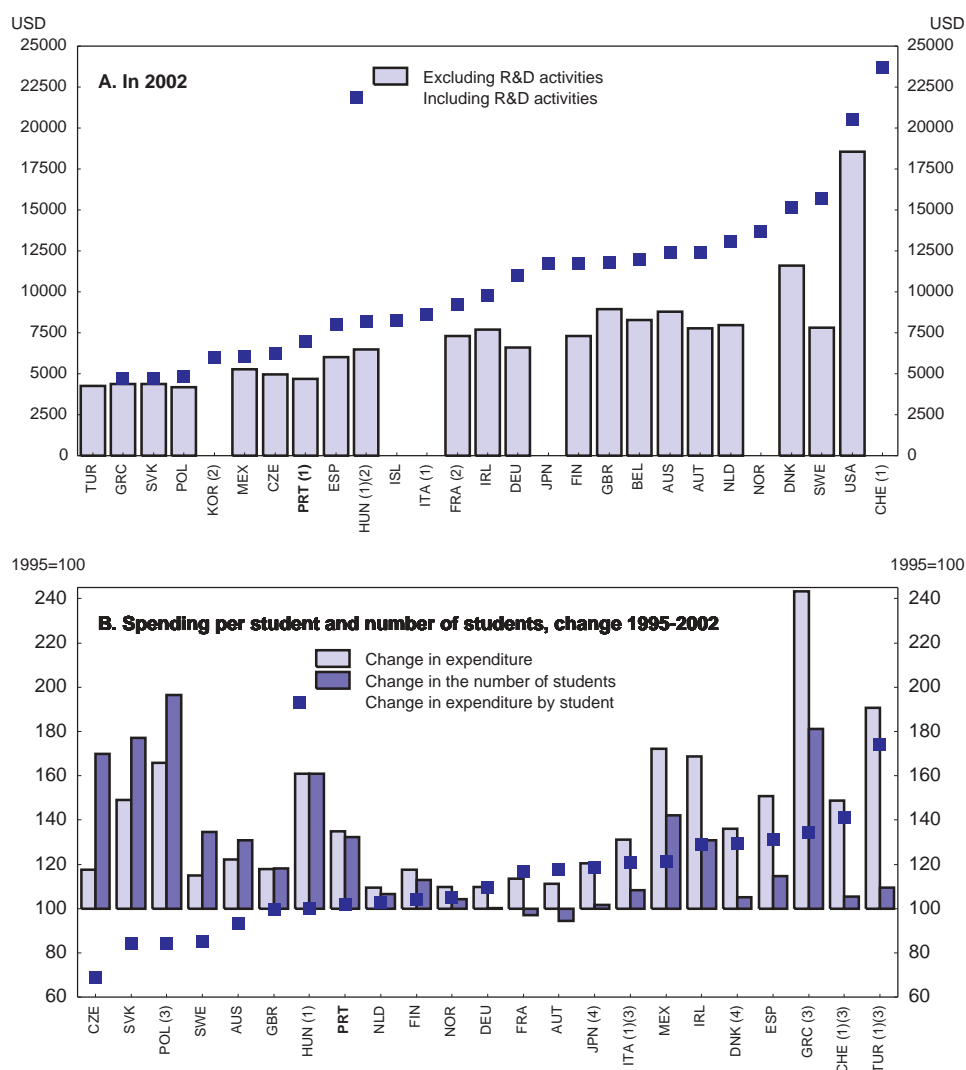
54. Public funding of higher education is debatable on equity grounds, since a large amount of spending benefits a small share of the population which tends to be relatively wealthy. Public support is, however, justified to facilitate access to the less affluent, through student loans (equivalent to deferred fees) and scholarships - which should be granted to the needy rather than just on merit. About one fourth of Portuguese students receive state assistance.⁵⁵ The average monthly assistance received by a student is, however, very small in Portugal and the social component is low. The government is introducing a new formula for social support and scholarships in tertiary education, which aims to create more social fairness.

55. The financing of tertiary education should be changed along the following lines: *First*, the public funding system of higher education institutions needs to be clarified. In this context, a new formula is being established to allocate public funds. *Second*, budget funds should be complemented by other sources of financing. A wider use of students' fees, in combination with a well designed loan system and some state assistance to poorer students, would contribute to the financing and would be more equitable. *Third*, alliances between business and universities should be further developed. There are various options, as illustrated by experience in many other OECD countries, which have taken steps to foster industry-science relationships (OECD, 2006).⁵⁶

55. This proportion is low by comparison with record proportions of 62 to 85% in the Netherlands, Finland and the UK. Some Nordic countries also provide loans to student to finance the cost of living, while tertiary education is practically free.

56. There are a variety of options for strengthening industry-science linkages, including: *i*) public-private partnerships for innovation (see OECD, 2005e); *ii*) active collaboration between firms and universities, based on cost sharing (see Adams *et al.*, 2003); *iii*) using specialised funds to support commercialisation of university research, as done in Canada and the United Kingdom; *iv*) firm-financing of university chairs and industry-focussed research centres; and *v*) giving publicly-funded research organisations ownership of intellectual property arising from their research. Careful consideration should be given to the incentives

Figure 14. Annual expenditure per student in tertiary education
USD (PPPs), based on full-time equivalents



1. Public institutions only.
2. Research and development expenditure at the tertiary level and thus total expenditure including R&D are underestimated.
3. Public expenditure only.
4. Post-secondary non-tertiary included.

Source: OECD, *Education at a Glance*, 2005.

The public funding system is being revised to include performance incentives

56. The public funding system should be more predictable and should be used to foster performance. Performance based systems for funding universities are already used in a number of OECD countries, notably in Australia, the Netherlands, Sweden, Switzerland, the United Kingdom and the United States, including both input-related and output-oriented indicators (OECD, 2005f, Box 4.6). The Portuguese

researchers will face in any particular scheme and, in particular, whether the public good aspects of fundamental research is preserved.

authorities are now also introducing performance-related funding of public higher education institutions, with a view to addressing quality concerns.

57. The new funding formula, approved with the 2006 budget, includes two main "quality" factors. *First*, the funding formula favours higher education institutions that show better teaching performance as measured by the number of students finishing with a bachelor's degree (universities or polytechnics) and by the number of masters and PhD degrees awarded in universities. One risk with this formula, however, is that it could create incentives for institutions to be more lenient and award more degrees. The government intends to limit this risk by introducing a credible quality control and evaluation system. *Second*, the formula rewards institutions which are hiring more qualified teachers.⁵⁷ This could, however, lead to more demand for funds. The authorities expect that the intended reorganisation of institutions will lead to efficiency gains and ease budgetary constraints. Nevertheless, financing from private sources will have to be increased to offer good quality tertiary education to the wider public that is expected to enrol.

Higher tuition fees should be combined with well-designed students loans

58. Adequate financing could be provided by a combination of budget resources, tuition fees - provided a well-designed system of support for needy students is in place - and alliances with enterprises or research centres. Private institutions, which are free to determine tuition fees, charge fees which represent the cost of the programme. This is not the case in public institutions, where tuition fees are relatively low, while the wage premium for students with a university degree is high. The partial deregulation of public institutions' fees in 2003 was expected to create competition among institutions, with better quality institutions charging higher fees, while the others would maintain lower fees to attract more students. But the gap between the minimum and maximum fees which can be charged is narrow and institutions cannot determine the number of students they admit since the state determines the annual *numerus clausus*.

59. There are many ways to finance tertiary education: the few OECD countries which charge significant tuition fees have introduced loans or grants to mitigate adverse effects on low-income students (Box 2). The Portuguese system should be carefully designed to adapt to the conditions in the country. The current government announced its intention to develop student loans, available to all students and charging subsidized interest rates.⁵⁸ The use of subsidized interest rate which is envisaged is doubtful, however, since it would benefit all students, including those whose income is likely to be higher in the future than the average Portuguese taxpayer's income. In some countries, repayment of loans is scaled according to income earned in working life to incorporate some element of fairness.

57. The formula for direct public funding to institutions includes: *i*) The overall number of students (in all courses approved for funding); *ii*) Cost factors allowing for specificities (ratio of teacher/non-academic staff; reference costs); *iii*) Quality indicators - covering both input indicators (share of academic staff with PhDs) and output indicators, i.e. graduation efficiency (bachelors' degrees) and post-graduation efficiency for universities (number of Masters' and PhD degrees awarded). Besides, public funding also covers contractual funding of institutions; direct funding to students and indirect funding to students.

58. There exists a very small-scale loan system, entirely based on the private banking system. The legal basis for having a government-funded loan system is in place, and the 2006 budget foresees funding for launching a public loan system to students on an experimental basis.

Box 2. OECD countries' experience in funding tertiary education

In the context of growing constraints on public finances, tuition fees have been raised considerably in some OECD countries to increase spending on tertiary education. Tuition fees are also justified from an economic and equity point of view, since individuals endowed with tertiary education draw large personal benefits from it, making it unfair to use general public funding on a very large scale as is done in many OECD countries. A limited number of OECD countries (the English-speaking countries plus Japan and Korea) charge significant tuition fees complemented by loans and/or grants for students from low-income families, with no evidence of adverse participation or equity effects (Blöndal *et al.*, 2002). Among these countries a few (e.g. Australia, New Zealand and the United Kingdom) also make the repayment of the student loans contingent on post-graduation income, thereby providing insurance against students' inability to repay. In the United States, where the repayment is not income-contingent, the default rate is quite high.

The case for providing grants or below-market interest rates on loans appears to be weaker: although some students may be poor today, they may become more affluent over their lifetime.¹ The alternative of making fees contingent on means-testing – or granting allowances to students from low-income families – is also less attractive, because the incentive for the would-be student is lost and it raises marginal effective tax rates on parents, exacerbating risks of under-reporting of income.

In New Zealand, the fee and loan system has led to an expansion in the resources available to the sector and to a large increase in participation, including by students from traditional ethnical minorities and poorer socio-economic backgrounds. Key reasons for this expansion were the fact that loans were available for any approved tertiary institution.

Some countries differentiate fees across subjects and/or universities. Fees are typically lower in arts, higher in medicine with science and law courses falling in between, in line with the actual costs of these courses and earnings that can be expected after graduation.

1. For more details, see World Bank (2005).

60. Developing the use of higher tuition fees would not only be more equitable but also more efficient (Joumard *et al.*, 2004). It would make students more attentive to the quality of teaching, with subsequent effects on their efforts to acquire knowledge. Fees also give incentives to the students to take the courses with higher returns - and to the institutions to supply them. The additional resources would allow the quality of staff and research to be raised. Difficulties of implementation should, however, not be underestimated. If income testing is used for fees or loan reimbursements, careful control will be needed to limit the risk of under-reporting of income - particularly high in a country such as Portugal where self-employment income is prevalent and tax compliance is weak (Bronchi and Gomes-Santos, 2001). Also, if a loan scheme is introduced, consideration should be given to the availability of information exchange systems across countries, so that people who go to work in other countries actually repay the loan in Portugal, otherwise there is a risk that the more educated move abroad in order to avoid repayment.

61. In sum, improvements in quality, developing further the accreditation system and designing appropriate financing schemes would contribute to increase overall demand in tertiary education and enhance human capital formation. It is important, however, that the arrival of a new public in higher education is not accompanied by a decline in average quality of the provision and that programmes that are in high demand are those that improve employability in the future. A clearer “division of labour” between the two different subsystems, universities and polytechnic schools, and their specialisation would help. In order to provide adequate services to a wider range of public it is important that there is enough diversity, with a choice of long- vs. short-cycle studies, research vs. early entry in the labour market, education for those coming out of secondary school vs. working students or adults.

Upgrading the competences of the labour force through adult training

62. On average, returns to adult training appear to be large and significant in Portugal. There are important differences in returns across categories of workers. Workers with low qualifications and long professional experience appear to earn larger returns.⁵⁹ Some activities are more profitable than others: training to improve current skills and on-the-job training attract largest returns. Based on European and national panel data for the late 1990s, the wage premium for participating in education and training was among the highest.⁶⁰ Both workers and firms benefit from training. Trained workers not only receive a wage premium they also enjoy better re-employment chances after lay offs,⁶¹ and firms benefit through increases in productivity. Nevertheless participation into training is low as a result of weaknesses in the supply of adult education and training and of the low awareness of the labour force of the returns to participate in such programmes.

Several steps have been taken to attract the ones who have dropped out back into schools...

63. The Ministry of Education is strengthening and modernising "recurrent education" system (*Ensino Recorrente*) i.e. formal education provided to those who left school without completing compulsory or upper secondary education. The number of adults participating in these programmes remains limited (i.e. about 85 000 people in total in 2004/05), reflecting a mismatch between training supply and needs. The modernisation strategy is based on the diversification of training supply, in particular by offering programmes combining academic training with qualifying training leading to a double - academic and professional - certification. Professional schools and general secondary schools will in particular be asked to develop programmes not only for upper secondary but also lower secondary classes. It is also planned to make the supply more flexible to meet the needs and constraints of the individuals concerned (who have full time jobs), especially the young adults who are meant to remain for a longer period in the labour force. At the same time, the system of validation of prior learning and experience is being strengthened.

... and to foster participation of workers in training

64. Portugal's adult training system has the objective of both providing initial qualifications and upgrading competences throughout the working life. Supply of the first type of training has been developed extensively over the past, using European Social Fund (ESF) resources in particular. However, according to results from monitoring funds, implementation has been inadequate. The cost effectiveness of the programmes co-financed by the ESF needs to be significantly enhanced and there needs to be an improvement in labour market and vocational training opportunities. There is no need to develop new

59. Budria *et al.* (2004) used pooled data from 1998 to 2000. While the impact on future earnings is large, the analysis shows little impact of training on the probability of entering and leaving unemployment. The results are consistent with the fact that in the late 1990s there was still a significant proportion of low skill jobs being created. More recently, as unemployment rates (and long-term unemployment) of low-skilled labour increased, training would presumably be showing more impact on the risk of unemployment.

60. OECD, *Promoting adult learning*, 2005, Box 2.1. OECD, *Employment Outlook*, Chapter 4, "Improving skills for more and better jobs: does training make a difference?"

61. Evaluation of the European-funded "Employment, Training and Social development Programme" shows a positive impact of training on the probability of leaving unemployment, especially for the younger groups. The national Employment and Vocational Training Institute Survey conducted in the first half of 2004 shows that more than one third of unemployed found jobs after 3 months after training, the proportion rising to 60 % nine months after training.

instruments but existing instruments should be rationalised.⁶² OECD country experience suggests that a gradual approach is appropriate when rationalising training instruments. Improvements could also be made by defining targets better, strengthening evaluation and using results to adjust programmes.

65. The other type of adult training, aimed at upgrading competences throughout the work life is more recent. Potentially, it could concern the 3 million workers who did not complete secondary schooling and have for the most part only 4 years of schooling. An important first step has been achieved with the development of the System of Recognition, Validation and Certification of Competences for Professionals, which serves for the recognition and transferability of competences, even those acquired through non-formal training. Now that the validation system is largely established, it is desirable to speed up its application and expand its scope, which will require developing the scale of operators, improving monitoring and mobilizing demand.⁶³

66. The Technological Plan, presented by the government at the end of 2005, includes measures aimed at increasing the average skill level of the Portuguese population and promoting life-long learning, as well as incentives to increase employment of workers with higher competences, with a special focus on scientific competences.⁶⁴ The Plan's comprehensive approach also identifies several measures aimed at facilitating business operations (see the 2006 OECD Economic Survey of Portugal).

67. The 2002 Labour Code set an obligation for companies to provide a minimum number of training hours to their employees (35 hours per year by 2006). The measure was introduced with the objective of raising awareness, particularly in SMEs where the lack of training is the most severe. There has not yet been clear evidence of an increase in the take up of training courses in SMEs, where workers continue to report the unavailability of time as an obstacle to pursuing continuing education. Forcing firms to fulfil the 35 hours obligation might not be a very effective way to stimulate demand for training, notably because it would be difficult to evaluate that implementation is effective and the training provided is useful. Smaller firms will find ways to bypass the rule in order to minimize the cost and disruption it creates. Larger firms will provide training even if it is not compulsory, as illustrated by the training programme organized jointly by a group of large foreign investors that includes Siemens, Volkswagen and Bosch.

Improving the effectiveness of training while stimulating demand

68. Improving the availability of information, strengthening communication with entrepreneurs or associations and promotional campaigns, including *via* public television, would contribute to raising awareness and motivation of the less qualified, older workers. As many other OECD countries, Portugal has set up an electronic learning data base; but this is not sufficient, in particular it does not reach the low-

62. Some instruments, should be abandoned notably those which do not guarantee double certification, *i.e.* recognition of competences obtained through training for the professional life and for formal education.

63. By end 2005, only about 50 000 participants had been covered in the certification system. The objective of the Ministries of Labour and Education is to supply training, through the Employment Institute and the network of schools and private vocational training institutions. They also intend to provide full recognition of acquired skills to 1 million workers, a yet more ambitious task. The programme *Novas Oportunidades* set up with the Education Ministry includes most measures of the government's strategy to overcome the low education level of the population. See <http://www.novasoportunidades.gov.pt>, and Box .1.

64. Two particular programmes are focused on enhancing training in companies: InovJovem, an existing programme promoting the employment of young graduates in businesses; InovContacto, which extends an existing programme combining training with temporary placement of young graduates in companies abroad. The programme GERIR, introduced in 2002, aims at improving managerial capacity and competitiveness of micro and small enterprises through the provision of a mix of training and consultancy services.

skilled individuals who are often unable to use a computer. Personal support is necessary to provide information and guidance.⁶⁵ Until now public support for training, including European funding, went to operators (supply) rather than to trainees. The authorities have announced their intention to provide funding directly to the demand side, considering direct funding to companies and to trainees. The reorientation of spending should also help to stimulate demand.⁶⁶

69. The key issue in all training is how to ensure that training provided is efficient, *i.e.* meets labour market needs and thereby improves trainees' working prospects. Effectiveness of training is related to incentives, target groups, the content, duration and mode of training, the system of recognition and certification. Short-duration training modules should be further developed to facilitate attendance for working adults. Also important are the pedagogical qualifications of those who provide training. Progress has been made in creating links between the careers of school teachers' and training providers, which used to be distinct. A common training framework should allow mobility from one career to the other. Evaluations should be strengthened, with a focus on follow up based on longitudinal evidence, to assess the impact of training events on earnings and employment advantage over several years. To stimulate demand, the government's priority should be to improve information about training opportunities, ensure portability of acquired skills and provide guidance while public support to training should be limited and targeted to "low-opportunity" individuals.

**Box 3. Preparing for the future: summing up of the main recommendations
to develop Portugal's human capital**

Basic and upper secondary education

Ensure better value for money

- Continue the rationalisation of the school network.
- Find a better balance between wage and non-wage expenditure.
- Envisage more radical measures to cut the wage bill so as to spend more on non-wage items (teaching material, schools equipment and maintenance, career guidance services, etc).
- Continue to strengthen teachers' initial and on-the-job training. Ensure better matching between the anticipated needs of the education system and the supply of initial training by teachers' schools. Provide a minimum initial pedagogic training to those hired outside these schools. Rationalise teachers' on-the job training and make it more in line with needs.

Continue to improve the relevance and quality of curricula

- Develop vocational and technical education while coordinating the supply at the local level, ensuring a good matching with labour market needs and improving the information available to students.
- Continue to modernise curricula at all levels and monitor closely the implementation and impact of changes.
- Develop and strengthen education and career counselling services for students.

65. The recently introduced S@BER+ Clubs ("knowing more" clubs) work in that direction at the local level.

66. In several other OECD countries, there has also been such a shift in policy from direct subsidization of external providers (public or private) of training services to co-financing schemes (where employers and employees bear some of the costs), which can be designed to increase incentives for employers, for individuals or for both to invest in training. Bassanini and Ok (2004) look at evidence of under-provision of training, focusing on continuous vocational training (provided or paid for at least partially by firms); they discuss policy approaches and assess how different policy instruments are needed to address obstacles to training suffered by different groups.

Improve evaluation systems at all levels

- Reform the teachers' evaluation system and use it for promotions.
- Develop further systematic evaluation of effectiveness of policies and programmes.
- Ensure that evaluation results are used to influence policy decisions, school management and users' choice.

Support poor achievers and students at risk, and prevent drop out

- Ensure that repetition ceases to be the preferred tool to deal with low achievers.
- Develop tools to identify students at risk of school failure.
- Consider further solutions to reduce segregation of students by social economic background.

Ensure that schools and teachers have the ability to use autonomy and receive incentives to do so

- Improve the selection, training and tasks of school principals.
- Reward the use of autonomy in promotions of teachers and principals.
- Train teachers better to take initiative and make effective use of their autonomy in the classroom and in school projects.
- Revamp school pedagogical councils and promote collective activities by teachers.
- Inform parents of the possibilities offered to schools so as they can put pressure on schools to use them.

Higher education

- Streamline programmes and reorganise the system, *via* mergers or closing down institutions; build up knowledge networks which associate universities and polytechnics.
- Increase relevance and quality, strengthening science and engineering programmes.
- Improve relations between teaching units and related research centres in higher education systems.
- Foster international partnerships with wellrecognized institutions.
- Give more autonomy to universities, while increasing their level of accountability.
- Involve polytechnic schools in lifelong learning.
- Develop systematic evaluation at all levels (institutions, programmes and teachers). Provide feedback to improve management and outcomes.
- Increase tuition fees in public institutions, backed by a well-designed loan scheme, to widen access and ensure adequate funding.

Adult training

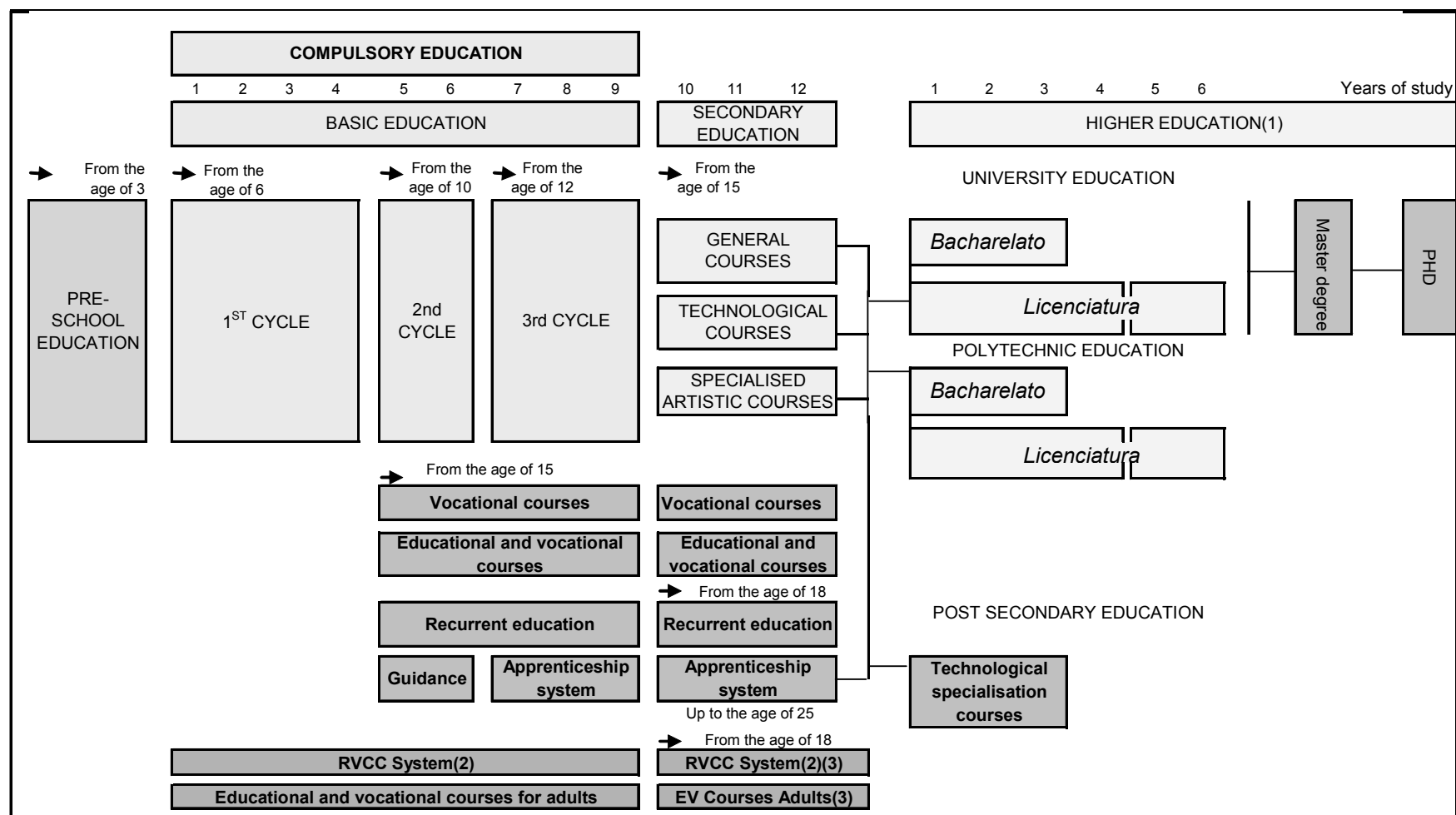
- Develop the assessment of the effectiveness of training, in terms of responsiveness to labour market needs; strengthen follow-up on outcomes; use evaluation results to influence policy design.
- Consolidate the Recognition, Validation and Skills Certification System, to stimulate demand. Speed up its implementation, extend the certification of participants in (formal and non-formal) training.
- Refocus the financing of training on the demand side by using available European transfers to directly support companies, SMEs in particular and trainees.
- Improve supply by raising the pedagogical qualification of trainers and develop more flexible timetables and short-duration training modules to facilitate access by working adults.
- Increase awareness by providing adequate information and promote communication on training offers and on returns to training. This would help to create a more demand-driven training system.

Bibliography

- Afonso, A. and M. St. Aubyn (2004), "Non-parametric Approaches to Education and Health Expenditure Efficiency in the OECD", *Documento de Trabalho 01/2004/DE/CISEP/UECE*, Instituto Superior de Economia e Gestão, Lisboa.
- Afonso, A. and M. St. Aubyn (2005), "Cross-country Efficiency of Secondary Education Provision: a Semi-parametric Analysis with Nondiscretionary Inputs" Department of Economics, Institute for Economics and Business Administration (ISEG), Technical University of Lisbon Working Papers with number 2005/05.
- Afonso, A. and M. Santos (2005), "Students and teachers: a DEA approach to the relative efficiency of Portuguese universities", June.
- Bassanini, A. and W. Ok (2004), "How do firms' and individuals incentive to invest in human capital vary across groups", Paper presented at EC-OECD Seminar on Human capital and labour market performance, Brussels, 8 December.
- Blöndal, S., S. Field and N. Girouard (2002), "Investment in Human Capital through Upper-Secondary and Tertiary Education", *OECD Economic Studies*, No. 34, OECD, Paris.
- Budria, S., Telhado Pereira (2004), "On the Returns to Training in Portugal" IZA Discussion Paper No. 1429. December.
- Cardoso, A-R, (2004), "Jobs for young university graduates – Is it worth having a degree?" IZA, September.
- Carneiro, P. and J. Heckman (2003), "Human capital policy", NBER Working paper 9495, February.
- Chagas Lopez, M., C. Medeiros and A. Pinto (2005), "Does school improve equity? Some key findings from Portuguese data", *mimeo*.
- Clements, B. (1999), "The efficiency of education expenditure in Portugal", *IMF Working Papers*, n° 179.
- European Group of Research on Equity of the Educational Systems (2003) *Equity of the European Educational Systems A Set of Indicators*.
- Eurostudent Report 2005: social and economic conditions of student life in Europe*, Project funded by the EC Socrates Programme, coordinated by HIS Hanover 2005, Germany.
- Guichard, S and W. Leibfritz. (2006), "The Fiscal challenge in Portugal" *OECD Economic Department Working Paper*, No. 489, Paris.
- Guichard, S. (2005), "The education challenge in Mexico: delivering good quality education to all" *OECD Economic Department Working Paper*, n° 447, Paris.
- IMD (2004), *World Competitiveness Report*.
- Joumard, I., P.M. Kongsrud, Young-Sook Nam and R. Price (2004), "Enhancing the effectiveness of public spending: experience in OECD countries", *OECD Economics Department Working Papers*, No. 380. Paris.

- Khury, B., L. Herweijerand, R. Heesakker (2004), "Education" in *Public Sector Performance: An international comparison of education, health care, law and order and public administration*, Social and Cultural Planning Office, The Hague.
- Ladd, H.F. (2002), "School Vouchers: A Critical Review", *Journal of Economic Perspectives*, Vol. 16, n° 4, pp. 3-24.
- Ministry of Education (2004), *Development of Education in Portugal: National Report*.
- OECD (2000), *Early Childhood Education and Care - Portugal: Country Note*.
- OECD (2001), *Starting Strong Early Childhood Education and Care*, Paris.
- OECD (2002), *What Works in Innovation in Education? School: A Choice of Directions*, CERI/CD (2002)5, Paris.
- OECD (2004a), *Learning for Tomorrow's World First Results from PISA 2003*, Paris.
- OECD (2004b), *What Makes School Systems Perform? Seeing School Systems Through the Prism of PISA*, Paris.
- OECD (2005a), *From education to work*.
- OECD (2005b), *Teachers Matter: attracting, developing and retaining effective teachers*.
- OECD (2005c), *Higher education management and policy*, Volume 17, n° 1, Journal of the Programme on Institutional Management in Higher Education.
- OECD (2005d), *Economic Survey of Austria*.
- OECD (2005e), *Public-Private Partnerships for Innovation*, Paris.
- OECD (2005f), *School Factors Related to Quality and Equity: Results from PISA 2000*, Paris.
- OECD (2006), *Going for Growth*, Paris.
- OECD/European Communities (2004), *Career Guidance - a handbook for policy makers which notably presents examples of successful systems*.
- Reis (2000), "Impacto do pacote fiscal de OE 99 nas receitas de IRS", Portugal Ministry of Finance, *Working Paper* n° 18.
- World Bank (2005), "EU8 finance reform cross-country study: financing higher education", a chapter for *World Bank Fiscal Study of EU8 Countries* (presented in Warsaw Conference, 23 and 24 June).

Annex A1. Synopsis of the education and training system



1. *Licenciatura* corresponds to a bachelor degree; the *Bacharelato* which is part of the cycle is awarded after 3 years. Under the European harmonised system, introduced as from 2006-07, the first cycle (*Licenciatura*) will last 3 years, the Master degree (*Mestrado*) an additional 1 or 2 years, followed by a third cycle for Doctorate.
2. RVCC: Recognition, Validation and Certification of Competences.
3. At the secondary level, these modalities will be functioning as from the 2nd quarter of 2006.

Source: Ministry of Education.

Annex A2

Moving ahead with European harmonisation in higher education

The government has stated its intentions to move ahead in implementing the Bologna process which aims to establish a European Higher Education Area (comprising 40 countries). It involves: mobility of students and teachers; convergence towards a common framework of qualifications and cycles of study; and measures to encourage lifelong learning by 2010. Several legal changes have already been made in Portugal to create the European Higher Education Area (Box A2.1).

Box A2.1. Ongoing changes in the legal framework for higher education

Redefining the structure of courses in higher education institutions

The harmonised structure will include two cycles - Bachelor and Master - followed (in universities only) by a third cycle, Doctorate. The legal framework, published in August 2005, will be implemented gradually by higher institutions, starting in 2005-06.

The two-cycle structure will correspond to the *Licenciatura 3-4 years /Mestrado (1-2 years)* in the current Portuguese education system. The new structure is to be introduced starting in 2006-07. The current higher education system (before the change) is divided as follows: a first cycle *Licenciatura* (4-6 years in universities, or 4-5 years in polytechnics), starting with the *Bacharelato* degree awarded after 3 years of studies. Universities offer post-graduate studies leading to the Masters' degree, *mestrado* (3 to 4 semesters) and the Doctors' degree.

Introducing the European standardised credit system (ECTS).

The legal framework was published in February 2005; institutions are progressively implementing the credit system.

The European Credit Transfer and Accumulation System (ECTS) was used on a pilot basis in two universities in 2004-05. The new system aims at facilitating student mobility from one country to another, while until now credit systems are generally used to accredit courses at the national level.

Issuing the Diploma Supplement (in Portuguese and English), describing students' qualifications to facilitate recognition in Europe. It is being progressively implemented by higher education institutions.

Opening access to higher education institutions for people in the labour force over the normal reference age (23 years). This opportunity will mainly concern polytechnics but also universities. Legislation for this is currently in progress.

Providing technology specialisation programmes at the post-secondary education level. This aims to provide new ways to qualify the population and new opportunities for accessing higher education. Legislation for this is also currently in progress.

WORKING PAPERS

The full series of Economics Department Working Papers can be consulted at www.oecd.org/eco/Working_Papers/

504. *Improving labour market performance in France*
(July 2006) Stéphanie Jamet
503. *Wage setting in Finland: Increasing flexibility in centralised wage agreements*
(July 2006) Åsa Johansson
502. *Regulation, competition and productivity convergence*
(July 2006) Paul Conway, Donato De Rosa, Giuseppe Nicoletti, Faye Steiner
501. *The political economy of structural reform: Empirical evidence from OECD countries*
(July 2006)
500. *Labour market performance, income inequality and poverty in OECD countries*
(July 2006) Jean-Marc Burniaux, Flavio Padrini and Nicola Brandt
499. *Improving Public-Spending Efficiency in Czech Regions and Municipalities*
(July 2006) Philip Hemmings
498. *Policies to Promote Innovation in the Czech Republic*
(July 2006) Alessandro Goglio
497. *Getting Education Right for Long-Term Growth in the Czech Republic*
(July 2006) Alessandro Goglio
496. *Assessing the 2005 Czech Proposals for Pension Reform*
(July 2006) Philip Hemmings and Edward Whitehouse
495. *Poland's Education and Training: Boosting and Adapting Human Capital*
(July 2006) Paul O'Brien and Wojciech Paczynski
494. *The Rates and Revenue of Bank Transaction Taxes*
(July 2006) Jorge Baca-Campodónico, Luiz de Mello and Andrei Kirilenko
493. *Nothing Ventured, Nothing Gained: The Long-Run Fiscal Reward of Structural Reforms*
(July 2006) Peter Hoeller and Claude Giorno
492. *Ireland's Housing Boom: What has Driven It and Have Prices Overshot?*
(June 2006) Dave Rae and Paul van den Noord
491. *Boosting Competition in Ireland*
(June 2006) Dave Rae, Line Vogt and Michael Wise
490. *Factors Behind Low Long-Term Interest Rates*
(June 2006) Rudiger Ahrend, Pietro Catte and Robert Price
489. *The Fiscal Challenge in Portugal*
(June 2006) Stéphanie Guichard and Willi Leibfritz
488. *Are House Prices Nearing a Peak? A Probit Analysis for 17 OECD Countries*
(June 2006) Paul van den Noord

487. *Maintaining Switzerland's Top Innovation Capacity*
(June 2006) Florence Jaumotte
486. *Employment Patterns in OECD Countries: Reassessing the Role of Policies and Institutions*
(June 2006) Andrea Bassanini and Romain Duval
485. *Brazil's Fiscal Stance During 1995-2005: The Effect of Indebtedness on Fiscal Policy Over the Business Cycle*
(May 2006) Luiz de Mello and Diego Moccero
484. *Realising the Oil Supply Potential of the CIS: The Impact of Institutions and Policies*
(May 2006) Rudiger Ahrend and William Tompson
483. *Summary of a workshop on global convergence scenarios: structural and policy issues*
(May 2006) Nick Vanston
482. *Revised OECD methods for supply-side and medium-term assessment: a capital services approach*
(July) Pierre-Olivier Beffy, Patrice Ollivaud, Pete Richardson and Frank Sédillot
481. *Balancing health care quality and cost containment: the case of Norway*
(February 2006) Alexandra Bibbee and Flavio Padrini
480. *The ageing challenge in Norway: ensuring a sustainable pension and welfare system*
(February 2006) Benoît Bellone and Alexandra Bibbee
479. *Strengthening innovation in the Netherlands: Making better use of knowledge creation in innovation activities*
(February 2006) David Carey, Ekkehard Ernst, Rebecca Oyomopito and Jelte Theisens
478. *How to sustain growth in a resource based economy? The main concepts and their application to the Russian case*
(February 2006) Rudiger Ahrend
477. *Projecting OECD health and long-term care expenditures: What are the main drivers?*
(February 2006)
476. *Alternative measures of well-being*
(January 2006) Romina Boarini, Åsa Johansson and Marco Mira D'Ercole
475. *Recent house price developments: the role of fundamentals*
(January 2006) Nathalie Girouard, Mike Kennedy, Paul van den Noord and Christophe André
474. *Reforming federal fiscal relations in Austria*
(January 2006) Andrés Fuentes, Eckhard Wurzel and Andreas Wörgötter
473. *Product market competition and economic performance in France*
Concurrence sur les marchés de produits et performance économique en France
(January 2006) Jens Høj and Michael Wise
472. *Product market reforms and employment in OECD countries*
(December 2005) Giuseppe Nicoletti and Stefano Scarpetta
471. *Fast-falling barriers and growing concentration: the emergence of a private economy in China*
(December 2005) Sean Dougherty and Richard Herd
470. *Sustaining high growth through innovation: reforming the R&D and education systems in Korea*
(December 2005) Yongchun Baek and Randall Jones